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VK6WI: Sundays, 0930 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

AMATEUR RADIO

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EDITORIAL

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NATIONAL FIELD DAY

The month of January signifies two things in the Amateur Calendar. The commencement of a new year and the approach of another National Field Day. The Amateur cannot, in spite of his adeptness, do anything to speed or impede the march of time, but he can by enthusiastic support do much to ensure and enhance the success of the National Field Day.

The value of this Contest as a proving ground for national emergency equipment has been stressed in editorials on numerous occasions. The mere fact that there is no immediate prospect of war and that the Government is extremely slow in initiating its Civil Defence Scheme does not mean that the National Field Day has lost its importance.

While the importance of Amateur Emergency Networks in wartime is obvious to all, the work of the same networks in the ever recurring peacetime national calamities such as bush fires, floods, and communication failures, although not as glamorous, is nevertheless equally important.

"Australia" week-end was originally chosen for the Contest because it offered a long week-end during suitable season for outdoor operation. Since the reduction of hours of operation it has been suggested a Sunday later in the season would be more acceptable. What do you think?

The success of any function irrespective of when it is held depends upon the number of, and the enthusiasm shown by, the participants. The enthusiasm of the actual participants in past Contests has been ably demonstrated by the results achieved. Therefore with the help of every Amateur who can obtain the necessary gear, this year's Contest could, and should, be an unqualified success.

To use a colloquialism, "Give it a go mate!" Enjoy the fun and promote the interests of the Amateur Communicator.

FEDERAL EXECUTIVE.

THE CONTENTS . . .

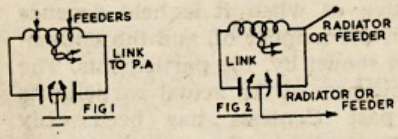
Foolproof Antenna Tuning-Final Loading System

BY D. W. TACEY,* VK3DW

Experimenting with antenna systems is a most absorbing pastime, and indeed more than a little so, to the average Amateur. However, after many hours of cut and try, also hauling up and down, is the result mediocre and the old Zepp seems rather good after all.

The writer finally settled on centre feed and has been very pleased with results over the past three years. No doubt when using tuned feeders, there is an optimum length of feeders for any particular band, the writer's point of view from a practical standpoint being that feeders can be any length within reason to suit the particular location, and providing the feeder impedance at the particular length in use is matched within limits to a corresponding impedance on the antenna tuning unit, the system must and will work correctly.

For some time, the antenna tuner used by the writer was as shown by Fig. 1. Just a plain parallel tuned coil using a two-gang b.c.l. condenser with the rotor earthed (optional) and input to final 35 watts. The link line is directly soldered to two turns in the centre of antenna coil, and a two turn free coil connected to the final end of the link for loading adjustment purposes. The feeders are then clipped on the antenna coil equal distances either side of the link section and various points tried until correct positions are located, retuning of course each change of position.



Quite often one hears chaps on the air bemoaning the fact that they are unable to make parallel tuning operate correctly and therefore prefer series tuning. Unless adjustments are made correctly the antenna tuning unit in the parallel method, **will** absorb the power, very little reaching the antenna proper, although a little time spent adjusting the feeder points will put the power where it should be, in the antenna. A matter of "matching the impedance."

Parallel tuning will present difficulties not met with in series tuning, although once mastered is a pleasure to use.

The system now in use is the outcome of further experimentation to make tuning simpler. Fig. 2 is self-explanatory and will feed any length of wire from 1 inch to infinity. Maybe I have exaggerated a little by the inclusion of infinity, although I am certain of the 1 inch, average antenna systems, and any equal or unequal lengths of any conducting material.

The parallel tuned coil as Fig. 1 and the link system remain the same, the only differences being that one feeder or what have you connects to junction of one end of coil and a stator, the other end of coil connects to the other stator, and the remaining feeder or what have you connects to the **rotor**, the earth being removed.

Now you have an ideal situation, an automatic combination of parallel and series tuning which will do two things **automatically.**

Feed the radiating portion **all it will take** depending on its length, location, etc., and **absorb the remainder,** thereby correctly loading the final depending on the link adjustment at the final.

Therein lies the difference between straight parallel tuning which can be so misleading inasmuch that the coil-condenser circuit can absorb power and the system appears to be working correctly except that it is **not,** unless the feeder taps are correctly adjusted.

The system of Fig. 2 **will not** play such tricks, it **will** correctly feed the antenna system whatever it may be, and absorb **only power** that the antenna will not handle. Briefly, the **impedance matching** is **automatic.**

A point concerning QRM. The chap who uses his 100 watts to talk across the town is more than likely raising Cain on the other side of the Continent at the same time, but by the installation of short wires around the picture rail **indoors** he can still put an S9 signal across town without causing unnecessary interference in some other State. The **outdoor** antenna can be switched in as required.

The system described commends itself by its simplicity and is in use by the writer with a total of 30 feet of wire around the picture rail for the 3.5 Mc. band, and up to S8 reports at around 200 miles.

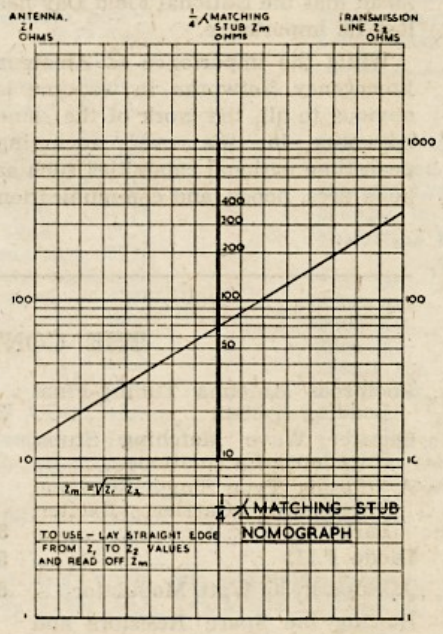
I have not had the opportunity to test the system on beams, although it appears to have possibilities for this type of work and also for portable operation. Good luck, and less QRM.

* Deschamps Street, Lilydale, Victoria.

Quarter Wave Matching Stubs' Impedance Calculations

BY N. SOUTHWELL,† VK2ZF

How often have you, when experimenting with various types of antennae and transmission lines, required a matching stub, and repeatedly worked out that time-worn formula $Zm = \sqrt[2]{Z1\ Z2}$, for various values of antenna and line impedances. Alternatively, have you ever erected a beam and, having a section of line on hand you wished to use as a matching stub, wondered just what impedance your transmission line should be?



The writer recently had reason to become involved in calculations of quarter wave matching stubs and spent a few minutes in thought prior to the job. The result was the accompanying chart for the determination of the various impedances involved. If any two of them are known, the third can immediately be found.

The chart lists the three variables—

Z1 Antenna Impedance in ohms.

Z2 Transmission Line Impedances in ohms.

Zm Quarter Wave Matching Stub Impedance in ohms.

To use the chart, join the two known impedance values by a straight line (if necessary project this line till it intersects the third scale), where the line cuts the third scale, read off the impedance value required to give you a correct impedance match.

For example, a two element beam with an impedance of 15 ohms, when used with a Quarter Wave Matching Stub of 72 ohms will match correctly a transmission line having an impedance of 360 ohms.

The most satisfactory straight-edge the writer has found to use on the chart has been a rule made of transparent plastic.

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A Phasing Type Single Sideband Suppressed Carrier Exciter

PART TWO

BY N. SOUTHWELL,* VK2ZF

The audio frequency energy is supplied to the balanced modulator from a p.p. source, and it is the audio frequency drive to a balance modulator that determines the output power obtainable from it, not the d.c. input to the plate. Switched by the r.f. carrier drive as described, the a.f. energy appears in the plate circuit as double sideband energy, and it is this energy that comprises the output from a balanced modulator (apart from any small amount of r.f. carrier leakage) when the stage is operating correctly.

The use of two balanced modulators feeding into a common load with the r.f. and a.f. drives to each being identical except for a shift of 90° in phase, results in a single sideband output. This occurs as follows:

The 90° shift in phase between the double sideband energy, supplied by each balanced modulator to the output circuit, results in the energy for one sideband supplied by one balanced modulator being equal in amplitude but 180° out of phase with the energy for that same sideband as supplied by the second balanced modulator, resulting in that particular sideband cancelling out. This leaves only the energy for the other sideband, supplied by both balanced modulators, in the circuit. Due to the 90° phase shift mentioned earlier, the two lots of energy for this sideband are in phase and add, giving us the s.s.b. output required. Each balanced modulator acts separately in balancing out the r.f. carrier drive supplied to it.

Reference to Fig. 4 may make the foregoing somewhat easier to understand.

Now, let us dig a little deeper into the matter of supplying an r.f. carrier to a balanced modulator.

Earlier it was stated that the r.f. carrier acted as the switching medium, quite so, but to enable the carrier drive to do this effectively and efficiently, it must be supplied to the balanced modulator at such a level that the switching action on the a.f. energy takes place on the straight portion of the r.f. input waveform, and that the balanced modulator is biassed to cut off well before the negative peak of the r.f. carrier drive is applied to its grid. If the amount of r.f. carrier supplied is insufficient, the switching action will take place non-linearly, i.e. the "switch action" will slow down during the period of its opening or closing, because when we get away from operating on the linear section of the r.f. carrier waveform, the balanced modulator operates to a point further up that wave where curvature sets in as the peak of the r.f. drive approaches, where the waveform flattens off. This results in an uneven, instead of a linear, build up of r.f. voltage on the grid before the tube is driven past cut off on each negative half cycle of r.f. carrier. This "starving" a balanced modulator of r.f. drive results in distortion and a broad signal covering a large slice of the band adjacent to the operating frequency.

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In the case of the balanced modulators described in this exciter, never let the bias, as measured at the metering points, drop below —5 volts d.c. Usually the writer's exciter is run with a bias of around —9 to —10 v.d.c. on each balanced modulator grid. The negative d.c. bias is developed at the grids of the balanced modulators similarly as in a class C amplifier stage using grid leak bias.

The "double-sideband-single sideband-narrow band phase modulation" switch is wired so that it disables one or other of the balanced modulators, together with its associated audio driver stage, when going onto d.s.b. or n.b.p.m. transmission. (For n.b.f.m. the carrier must be reinserted.)

The method of disabling the balanced modulators is to apply a voltage of approx. +80 v.d.c. to the cathodes of the balanced modulator tube to be disabled, which is the equivalent of applying —90v. to the plates. The audio drivers are disabled by disconnecting their h.t. feeds.

The n.b.p.m. position on the switch is not of great use on the air on 14 Mc. as insufficient radian swing is obtainable to do much with. If some frequency multiplication were available between the operating frequency of the balanced modulators and the transmitter output frequency, this position would work quite well. The facility was wired in for the sake of completeness, it using a position on the switch which was available and otherwise would have been left idle.

For Circuit Schematic and Coil Data, refer to Part One which appeared in the December, 1952, issue.

Metering facilities are provided in the balanced modulator stages for measuring the d.c. negative bias developed at one grid in each stage, as mentioned previously, this bias should never be allowed to fall below —5 v.d.c., and the upper limit depends upon how good the balance of your balanced modulators is, as carrier leakage through them increases with an increase of carrier drive. The two 20,000 ohm resistors used in the metering circuits should be matched against each other, but their exact value is not critical, the same requirement regarding matching, applies to the two 10,000 ohm grid leaks associated with the metering circuits.

Do not transmit at any time with the meter switch left connected to either of the balanced modulator metering positions, as in so doing you run the risk of unbalancing the drives to your balanced modulators.

The output circuit of the balanced modulators is a p.p. split stator tuned tank and it is recommended that this circuit be adhered to for its good balancing properties. The r.f.c. in the lead from the tank c.t. to ground is essential to prevent the tank circuit acting as two tuned coupled circuits, which would happen if the coil c.t. was grounded directly, when using a split stator condenser with its rotor grounded.

Considerable experimentation took place before the present circuit of the balanced modulators was used. Originally, four 6H6s, arranged as two double ring type balanced modulators were used. These were discarded, however, when it was found that if tone was applied to them for a few minutes, the extra plate dissipation heated the tubes and caused a small change in the internal tube capacities, upsetting the capactive balance of the stages (which was fairly critical, as all capacities were of a small value), thus allowing a widely varying, erratic carrier leakage to take place through the balanced modulator tubes to their output circuit.

6AU6 CARRIER RE-INSERTION

Carrier re-insertion is obtained by taking r.f. drive from the input of the r.f. phase shift network, and feeding it to the grid of a 6AU6 used as a carrier re-insertion tube and connected as a penthode. The plate of the 6AU6 is coupled through a small (10 pF.) condenser to one side of the balanced modulators' output tank. Normally the 6AU6 is biassed well beyond cut off by means of the adjustable pot its cathode circuit, or the pot is left set at approx. the correct position used when the carrier is re-inserted, and the 6AU6 rendered inoperative by opening the s.p.d.t. switch in its cathode lead.

The setting of the cathode circuit potentiometer determines the bias on the tube and thus controls the amount of carrier re-inserted on the transmission. When re-inserting the carrier, care should be taken not to insert too much and overload the input of the 6BA6 class A linear stage, only a few volts of carrier need be supplied to the tank circuit of the balanced modulators, the maximum value depends upon how you have the bias control on the 6BA6 set. Also when running with the carrier in, and using either one sideband plus carrier, or a normal double sideband transmission, you must reduce greatly your audio gain, otherwise your sideband energy will be far too great for the carrier, which will then be over modulated. A little experience will soon teach you the best setting of your controls. At the writer's station, the s.s.b. peak input to the final stage following this exciter is 100 watts, but when the carrier is re-inserted, the input power, then constant because of the carrier, runs around 40 watts.

The efficiency of the final drops from around 70% to approx. 25% when the carrier is re-inserted, but this is normal for a class B linear stage. Naturally the received signal strength drops also, but the transmission is then readable as a normal a.m. transmission. Many a time the facility of being able to re-insert the carrier has enabled the writer to explain to an answering station, unaware that they were listening to a s.s.b. signal, and therefore unable to read much, if anything of the transmission, just what was taking place.

Various points were tried for the re-insertion of the carrier in the exciter

and the best place was found to be the balanced modulators' tank circuit. The further along the line that you choose to feed the carrier back in (i.e. the 6BA6 or the 807 stage), the greater the chances are of a slight undesired phase shift having occurred, resulting in the re-inserted carrier being slightly out of phase with the sideband energy.

This phenomenon happened to a degree when trying various other points for carrier re-insertion, one indication of the above trouble is that when you monitor the signal on s.s.b., then re-insert the carrier and again monitor the signal, the pitch of the voice will be found to have changed slightly, assuming of course that each transmission has been tuned in correctly before the check is made. The effect is also noticeable at a distance, if the receiving operator is asked to check critically the transmission. In carrying out this check at any time, it is advisable to ask someone who has had some experience in receiving s.s.b. transmissions to do it, not a newcomer to s.s.b.

The phase of the reinserted carrier should be the same as that of the sideband energy obtained from balanced modulator "B," and 90° out of phase with the output energy from balanced modulator "A." The foregoing only holds when the r.f. feeds to both balanced modulators and the 6AU6 are connected to the r.f. phase shift network as shown, connecting the 6AU6 to the opposite end of the network and leaving the balanced modulator connections unchanged will reverse the phase relationship of the 6AU6 to the balanced modulators. You may think this point is of little importance, but it is exceedingly important, sideband energy in phase with the carrier results in amplitude modulation, whereas sideband energy 90° out of phase with the carrier gives phase modulation, hence our ability to obtain either a.m. or n.b.p.m. from this exciter, though the amount of p.m. available is small as mentioned before.

The output of the balanced modulators is link coupled to the 6BA6 1st r.f. linear stage, operating class A on 14 Mc. An EA50 diode is connected to the link to serve as a v.t.v.m., and is very handy when making adjustments, or lining up; a GEX44 is used for a similar purpose, on the link coupling the 6BA6 to the 807 2nd r.f. linear stage.

The power level on these link circuits is very low, the circuits shielded to a large extent, and the linear stages operate class A. V.t.v.m's. connected to the links have proved an exceedingly convenient way of overcoming all lining up difficulties in the way of tuning adjustments, and neutralisation checking. The v.t.v.m's. may look surplus to some people, but it is considered they have justified their inclusion in the exciter.

The 6BA6 1st linear stage is quite conventional, the tube operating under similar conditions to what it does in a receiver r.f. stage. A wire wound potentiometer is used to control the bias, and hence the gain of the stage. This control enables independent adjustment to be made of the overall gain of the r.f. linear amplifiers of the exciter and has proved a handy feature. The 6BA6 is link coupled to the second linear stage, an 807 operating class A.

The use of an 807 as class A r.f. amplifier on 14 Mc. may cause a few eyebrows to rise slightly, but apart from having to neutralise the stage, to stop oscillation at the operating frequency, a happening which was anticipated, no trouble of any type was encountered with this stage. The parasitic r.f. choke in the 807 grid circuit consists of 20 turns of 30 s.w.g. enam., wound on a high value 1w. carbon resistor, and the turns spread out to a length of ⅝".

Metering of the cathode current is provided, and is all that is required for checking the stage's operating condition. The output power from the 807 is conservatively rated at 5 watts, and the exciter is operated around that level, though more can be obtained from it; ample drive is available though, to drive the final stage to 100w. peak on s.s.b., and that, after all, was what this exciter was designed to do.

Voltage regulation of the screens of the linear amplifiers has been tried, but no difference could be detected in the signal radiated, or noticed on an oscilloscope, so it was discarded.

The two linear amplifiers each being operated class A, present a constant load to their input circuits, as they do not draw grid current; as a result, no grid swamping resistors are needed, some have been tried but they are not necessary.

CONSTRUCTION

The exciter is built on a chassis 11" x 17" x 3". As can be realised, there is very little spare room, though due to careful layout no undue crowding occurs, and feedback troubles have been unknown.

The layout need follow no hard and fast pattern, as long as common sense is used; keep a.f. circuits clear of r.f. ones, shield the wiring and components of the 6AU6 and 6L6G stages from the rest of the r.f. circuit wiring, to avoid coupling the carrier around the balanced modulator stages, and so feeding it to the linear amplifiers directly by stray coupling. All r.f. wiring should be made as short and as direct as possible. The 6BA6 linear stage was added after the original idea of using 6H6s in the balanced modulators was discarded, this stage is built on a small sub-chassis mounted atop the main chassis, thus being completely shielded. No metering facility was found necessary in this stage.

A shield plate was made to fit over the bottom of the chassis, to totally shield all wiring, in case trouble was encountered from external fields causing instability. To date, however, the use of this plate has not been found necessary.

Locations of Coils

The coils for the balanced modulators' output tank, and the r.f. phase shift network, are mounted below the chassis, oriented at 90° as well as being shielded from each other, and well separated. The condensers used to tune these two coils are butterfly type units, of 100 pF. per section used as two gang condensers. The 807 output circuit is mounted above the chassis.

All other tuned r.f. circuits are semi-fixed tuned, completely shielded. Each is mounted in a 300 Kc. i.f. can, from American I.F.F. units. These i.f. units are labelled "358-1696," and were available in Sydney very cheaply. The coils were removed and used as r.f. chokes, and the cans, together with their internal structure, were slightly modified to take a coil and condenser, where the two slug tuned coils originally were mounted. Trimmer type screwdriver adjustment condensers are used, and can be adjusted through one of the holes in the can, previously occupied by a tuning slug screw.

Coil data is given in the accompanying table. A slug is used in the r.f. phase shift network coil to allow its inductance to be varied, but once set, this slug is never again touched. It may save you pruning the coil when lining up the first time through.

Neutralising Condenser

The 807 neutralising condenser consists of a piece of spaghetti covered 16 s.w.g. tinned copper wire, supported on a small lead-through insulator, and near the neutralising end of the 807 tank coil. The 807 tube socket is not sunk in the chassis, but the tube is shielded from the chassis up to the bottom of its internal plate assembly.

Care Needed With Audio Phase Shift Network

Regarding the audio phase shift network, special care is called for in its construction, this is in addition to the care needed in selecting components of the correct value. The resistors used in this network (assuming they are of the carbon type), must never be allowed to become more than slightly warm, never hot. If this precaution is not taken, the components, though all having correct values when measured on the bridge previously, will be useless as a completed network. Heating carbon resistors can, and does, permanently change (usually raising) their value by as much as 20 per cent. The consequent resistance value also tends to become unstable.

The construction adopted for the network in this exciter was to use the common "fishback" bakelite type of mounting strip, as a base on which to mount all components, with the interconnections between them made on the reverse side of the strip. When soldering the resistors, leave long leads on them, clamp the resistor pigtail being soldered in the jaws of a pair of bull-nosed pliers, between the end of the resistor and the joint, as near to the soldered joint as possible before using the soldering iron. Using this procedure, the jaws of the pliers will dissipate the heat fed along the resistor pigtail and prevent it reaching the resistor. If changes are made at any time to the network or its associated wiring, always use the above technique, if resistor connections are involved.

It may be argued by some that the finished job will not be as compact or as neat as it could be. Compactness will spell disaster if the resistor becomes heated. As regards appearance, the unit can still be made tidy and presentable.

The condensers used were the standard variety of mica ones available around the trade. Silvered mica units are not required and paper dielectric condensers are definitely not recommended for this part of the circuit. No special precautions need be taken in soldering to the mica condenser pigtails.

(To be continued)

DIODE F.M.

BY DR. A. F. TAYLOR,* VK3AT

In the American Radio Journal "CQ" for April, 1952, Robert H. Weitchbrecht, W6NRM/9, described a diode modulator used for frequency shift keying. He applied the circuit to remote control tuning of the oscillator in his receiver, and suggested a circuit using the diode modulator for n.b.f.m. He stated that he had not, however, tried it out himself. I built a diode modulator and found that it has several advantages over reactance tube modulation of an oscillator, namely:—

(1) Simple circuit.
(2) Does not affect stability of the v.f.o.
(3) Does not increase frequency shift.
(4) More than enough deviation is obtainable even for 3.5 Mc. phone.

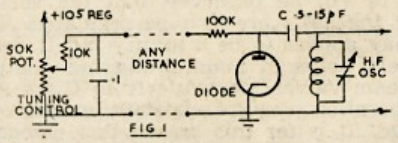

FIG 1

The circuit used for remote tuning of an oscillator is shown in Fig. 1. Using this circuit W6NRM/9 obtained a tuning range of 20 Kc. in the 7 Mc. band when he used a 6C4 connected as a diode. When he used a 1N34 crystal diode the tuning range was 25 Kc.

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The circuit for n.b.f.m. is shown in Fig. 2. It will be seen that the circuit consists of an audio amplifier with a 100,000 ohm plate resistor connected to a regulated B supply. The diode plate is connected to the plate of the audio amplifier via another 100,000 ohm resistor and an r.f. choke (these latter two components are to keep r.f. out of the audio system). The plate of the diode is coupled to the grid of the v.f.o. via a condenser of about 10 pF.. The cathode of the diode is earthed.

Now a word about the speech amplifier. It was found that a great improvement in the quality when receiving the n.b.f.m. on an a.m. receiver was obtained when the lower voice frequencies were attenuated. This was done by decreasing interstage coupling condensers in the speech amplifier to 0.0003 uF.

Secondly, a logarithmic compressor was incorporated in the speech amplifier. This kept the deviation constant so that the signal did not deviate more than 3 Kc. on voice peaks, and at the same time, the apparent audio strength of the signal at the receiving end was increased.

The condenser C in Fig. 2 is a 3 to 30 pF. air trimmer; it should be as small in capacity as possible. When the full 30 pF. is used the n.b.f.m. on 80 metres is quite satisfactory, but on listening on 20 metres a small f.m. ripple was observed in the carrier. Decreasing C to about 10 pF. completely cured this, and now a clean carrier is transmitted on all bands. During modulation, the carrier is clean and no "swooshing" is observed.

The condenser C must have a d.c. return circuit to earth, either via the v.f.o. tank coil, or the v.f.o. gridleak. The writer uses a Clapp v.f.o. on 160 metres with the condenser C connected to the grid of the oscillator valve with a grid leak of 100,000 ohms to earth.

In tests with VK3GU, this method of n.b.f.m. gives a louder signal in his receiver than the cathode modulation used for a.m.

As Ham receivers vary greatly in selectivity, some adjustment of the deviation may be necessary during a QSO. If the report is one of weak audio in comparison to the strength of the carrier, the deviation should be increased slightly. If the reporting station says that the phone sounds distorted, then his receiver is fairly selective, and the deviation should be decreased.

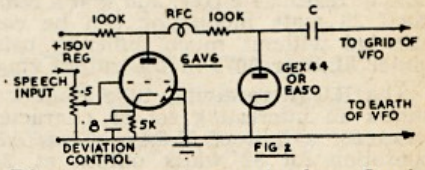


FIG 2

Direct current must be flowing through the diode for the circuit to work, hence the d.c. connection between audio amplifier and diode plate.

If some members more advanced in theory can offer an explanation of how this circuit works, I would be most interested.

REFERENCES

"The Useful Diode Modulator," "CQ," Apr., 1952.
"Logarithmic Compressor," "Amateur Radio," Oct., 1950.
"Radiotronics," Feb., 1952.

A SUPERB 30 WATT MODULATOR

BY C. A. CULLINAN,* VK7XW

Judging by conversations one hears on the Amateur phone bands, the most popular transmitter is one using a single 807 running at 60 watts input, this being the maximum rated input under I.C.A.S. conditions. This in turn requires a modulator of 30 watts if full modulation with negligible distortion is required, although it is possible to get away with a lower power when speech only is to be transmitted as has been shown by Douglas Fortune and others.

An analysis of the parts position shows that modulation transformers with a 30 watt rating are readily available at reasonable cost, and that a really good 30 watt modulator can be constructed without much difficulty using either 6L6s or 807s in the output stage.

The R.C.A. receiving tube Handbook shows an interesting set of characteristics for a pair of 6L6s in Class AB1 operation for 32 watts output at 2% distortion.

The typical operation for self bias is as follows (two valves):—

Plate Voltage	400 volts
Screen Voltage	300 volts
Cathode Resistor	200 ohms
Zero Sig. Plate Current	112 Ma.
Max. Sig. Plate Current	128 Ma.
Zero Sig. Screen Current	7 Ma.
Max. Sig. Screen Current	16 Ma.
Load Resistance (plate to plate)	6,600 ohms
Harmonic Distortion—	
Total	2%
Third	2%
Max. Sig. Power Output	32 watts
Peak A.F. grid to grid voltage	57 volts

The application of approx. 9% of negative feedback to the output valves will reduce the distortion to negligible proportions and this has been done in the design under discussion.

The power output of 32 watts is, of course, the valve output, the output at the secondary of the modulation transformer will depend on the efficiency of the transformer. For a good design, 30 watts at the secondary can be obtained quite easily. This is one point frequently overlooked by the Amateur, as it is not generally realised that the power outputs for any service shown in the data handbooks is the valve output, not that which is available at the output of the coupling device. A transformer with a 3 db loss will drop the output by half so that a 30 watt valve output will be 15 watts in the secondary.

The design of this modulator comprises a 6SJ7 valve pentode connected in the first stage. There are two sections of decoupling in the plate circuit and all earthed components are returned to a common earth point. All this helps in the reduction of hum, noise and instability.

For the second stage, another 6SJ7 is used, this also is pentode connected and care taken to run all earth returns in this stage to a common point.

* 64 Lawrence Vale Road, Launceston.

For the third stage, a triode connected 6V6 is used and this valve is transformer coupled to a pair of 807's in the output stage. Between the second and third stages is located a "dialogue equalizer."

A five-position wafer switch permits either "flat" response or four responses with different amounts of bass reduction, these being 4, 6, 8 and 10 db respectively. In the "flat" position the "dialogue equalizer" permits the full bass response of the amplifier to be used, but in the other positions removes the bass to give a clean crisp quality for use when chasing DX. This circuit does not boost the high frequencies, it merely removes the bass ones.

The valves shown should be adhered to or some funny results may be obtained. In the circuit shown the bass response starts to fall off about 500 cycles and is down by the amounts shown at 100 cycles. In this amplifier both the volume control and the equalizer switch are mounted in the most convenient position for short, direct leads, and control exercised through flexible shafts.

TECHNICAL ARTICLES

The Technical Editor reports that the technical articles' bag is very nearly empty, so how about it chaps?

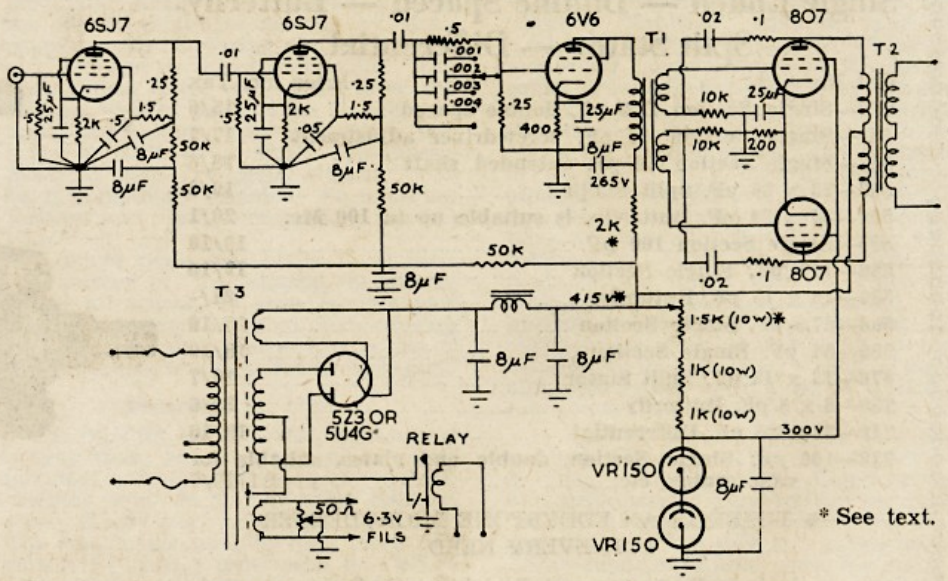
Don't forget the beginners have to be catered for, so articles on beginners' equipment are also welcome.

(For those who would like to use the equalizer in an existing modulator, don't place it within a feedback loop or you will be in trouble.)

Negative feedback is applied around the output valves in a simple sure-fire manner. Be sure to check that the feedback is correct or the amplifier will squeal like a Banshee with the DT's. This type of feedback calls for an audio transformer with a split secondary. (If one cannot be obtained with the required primary impedance, then it is in order to substitute a 6C5 or 6SJ7, triode connected, in place of the 6V6 if the primary impedance is between 20,000 and 30,000 ohms. The transformer by the way, is not a Class B job, but can have a small step-up ratio.)

It will be observed that the screens of the 807's are voltage regulated. This may appear to be a luxury but it definitely helps in maintaining high output. Beam valves, particularly in Class AB2 operation, require constant screen voltage. It is for this reason that elaborate screen stabilising systems are employed in commercial designs. In this amplifier the use of screen voltage stabilisation was found to be advantageous so was used. By observation the screen voltage does not vary more than 1 volt between zero signal and full output.

Another point of interest is that the contacts of a relay are wired in the centre-tap of the h.t. winding on the power transformer so that the h.t. can be removed automatically when the transmitter is off. This is done to prevent the amplifier operating into practically an open circuit if the volume control is left turned up when the transmitter is off. Note that the static shield on the transformer is tied to the



T1—Interstage coupling transformer. Primary 4,000 or 5,000 ohms, to carry 40 Ma. d.c. Secondary to push pull grids with split secondary and all secondary leads brought out.

T2—Modulation transformer, multi-match type. Primary connected to match 6,600 ohms push pull. Secondary to match r.f. load.

T3—Power transformer. H.t. secondary 385/385 at 250 Ma. Filaments: 5v. 3a.; 6.3v. 4a. Static shield to be brought out separately.

Ch—20 henry low resistance filter choke.

h.t. centre tap, not earth. This is to prevent breakdown of the transformer when opening the centre tap—no trouble in this direction has occurred in 18 months' operation of the amplifier. A toggle switch is wired across the relay contacts so that the amplifier can be used as a p.a. amplifier when relay excitation is not available.

In order to reduce hum to a minimum a 50 ohm pot. is wired across the heater winding and adjusted for minimum hum.

Certain points should be noted in order to obtain first class results. The voltage at the output of the h.t. filter should be 415 volts to 420 volts. This, with a 385/385 volt h.t. secondary calls for a very low resistance filter choke.

The de-coupling resistor in the plate circuit of the 6V6 should be adjusted to give 265 volts between plate and ground on the 6V6.

Likewise the three screen dropping resistors for the 807 screens should be adjusted so that the maximum current through the VR150s does not exceed 30 Ma. For this purpose one of the resistors should be adjustable.

The grid resistor for the first stage is shown as 0.5 megohm. This is done purposely in order to reduce further the bass response of the crystal microphone used as it has a substantially flat response from 50 to 8,000 cycles when a 2 megohm resistor is employed.

The frequency response of this modulator depends to a great extent on the modulation transformer. With most multi-match transformers, the response will vary slightly with different tappings.

Set for a 600 ohm output the response, in the "flat" position, was 5 db down at 50 cycles, 3 db down at 100 cycles, and flat from 500 cycles to 13.5 Kc., the upper limit of measurement, at 30 watts output.

Power output at 600 ohms output into a resistive load was 30 watts for less than 1% distortion above 500 cycles. Noise, mainly valve hiss, was —65 db below 30 watts output.

There is plenty of gain to work from any good crystal microphone or from a high impedance dynamic type.

Finally, for those who like music well reproduced, the fitting of a properly compensated pick-up and substitution of a wide-range output transformer will result in a home record player far above average. If your speaker system can handle it and your neighbours stand it, the result will make all your hi-fi cobbers come a-running to listen and want one like it.

Storing the Spare Resistors and Condensers

"How To Vote" Cards for the last Victorian Federal Senate Elections were long and narrow and are very handy to mount most sizes of resistors and condensers in single rows and in any classificiation so that they may be easily and quickly located. All that is necessary is to punch holes in the cardboard a suitable distance apart, push the pigtails through and bend them over behind to hold the component in place. The idea was borrowed from VK3ACW who used the cardboard backs of writing pads.—A. D. Buchanan, VK3FD.

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ACCURATE FREQUENCY TRANSMISSION RESULTS

Thursday, 27th November, 1952

7000 Kc.	32 cycles low
7020 Kc.	2 cycles low
7040 Kc.	17 cycles high
7060 Kc.	13 cycles high
7080 Kc.	9 cycles high
7100 Kc.	19 cycles high
7120 Kc.	no check
7140 Kc.	no check
7150 Kc.	17 cycles high

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W.I.A. NATIONAL FIELD DAY, 1953

RULES

1. The National Field Day Contest of the Wireless Institute of Australia will be held on Sunday, 25th January, 1953. The Contest will be of twelve hours duration commencing at 0900 hours E.A.S.T. and concluding at 2100 hours E.A.S.T.

2. The Contest is limited to portable stations operating within the Commonwealth and its Mandated Territories on a power not exceeding 25 watts with the antenna connected, with a special section for fixed stations working to portable stations.

3. A portable station for the purpose of the Contest is defined as one whose power is not obtained from either private or public mains, shall not be located closer than five miles to the home location of the operator(s) and shall not be situated in any occupied dwelling.

4. No apparatus is to be set up or erected on the site of the portable station earlier than 24 hours prior to the commencement of the Contest. A station may be moved from one site to another within the same State during the period of the Contest.

5. More than one operator may be used in the operation of the portable station provided that all operators are licensed Amateurs.

6. Operation may be on any of the recognised Amateur bands and more than one transmitter may be used, providing that one transmitter only is used at any one time.

7. When calling, c.w. stations will use the call "CQ FD" and phone stations will use the call "CQ Field Day" to indicate they are portable stations. Attention is directed to the requirements for portable operation as defined in the P.M.G's. Handbook for the Guidance of Amateur Operators.

8. **Sections.**—The Contest is divided into four sections, namely,

(a) Open
(b) C.W.
(c) Phone
(d) Fixed Station.

The Open Section will consist of both Phone and C.W. Portable station participants may enter each of sections (a), (b) and (c) provided a separate log is entered in each case.

9. Logs must be forwarded **through the Division** to reach the Federal Contest Committee, Box 1734 G.P.O., Sydney, not later than the 27th February, 1953.

10. Logs must show the location of the portable station, names and call signs of the operators in the party, a description of the transmitter(s), receiver(s), antenna(e). and the power supplies. The power input to the final stage with the antenna connected (must not exceed 25 watts) will also be shown.

11. Log entries are to be in the following order: Date, time (E.A.S.T.), band, power, station worked, report sent, report received, QTH of station worked, contact points claimed, bonus points claimed, and portable operator's call. A summary at the conclusion of the Log will facilitate checking.

12. The completed Log must be signed by each of the operators with a statement that the P.M.G's. Regulations and the Rules of the Contest have been observed and that the operators agree to accept the decision of the Federal Contest Committee on all matters pertaining to the Contest.

13. **Scoring.**—For the purpose of the Field Day, the following constitute VK Districts: VK2, VK3, VK4, VK5 (South Australia), VK5 (North Territory), VK6, VK7 and VK9.

14. Serial numbers must be exchanged during the Contest as follows: The first three figures will be the RST in the c.w. section followed by the serial number of the contact commencing with any number between 001 and 100 for the first contact and increasing by one for each successive contact. In the phone section the first two figures will be the RS and then as in the c.w. section. In addition, the QTH must also be given in all cases.

15. Points will be awarded as follows:

Portable Stations—

(a) For contacts with a fixed station within the Commonwealth (Rule 13) including the Competitor's State .... 1 point.
(b) For contacts with other portable stations in the Contest within the same State .... 2 points
(c) For contacts with stations in Asia, North America and Oceania (outside the Commonwealth, Rule 13) .... 3 points
(d) For contacts with stations in Europe .... 5 points
(e) For contacts with stations in Africa and South America .... 7 points
(f) For contacts with other portable stations outside the State, 10 points
(g) A bonus for each Continent worked on each band. For Oceania the contact must be outside the Commonwealth (Rule 13). Add to the final score .... 25 points
(h) A bonus for each new State or Country worked on 50 Mc. Add to the final score .... 25 points
(i) A special bonus for each Interstate or Overseas contact on 144 Mc. Add to the final score .... 50 points

Fixed Stations—

(j) For contacts with portable stations in the Contest within the same State .... 1 point
(k) For contacts with portable stations in the Contest outside the State .... 2 points

16. **Awards.**—An attractive certificate will be awarded to the outright winners in each Section, namely, Open, C.W. and Phone. Certificates will also be awarded to the winner in each State in each Section and to the fixed station in each State with the greatest number of points gained in contacting portable stations in the Contest. Further Certificates may be awarded at the discretion of the Federal Contest Committee. The outright winners are not eligible for State Awards.

17. Certificates will be awarded to each operator of the winning stations provided each operator has contacted 25% of the stations contacted.

AMATEUR CALL SIGNS

FOR MONTH OF OCTOBER, 1952

ADDITIONS

VK—

New South Wales

2FA—H. Oakes, 14 Glebe St., Edgecliffe.
2RI—R. M. Tutton, E.A.H.Q. R.A.A.F., Penrith.
2AAS—J. A. Whittaker, 12 Botany St., Randwick.
2AEK—J. Stephenson, 34 Myall St., Punchbowl.
2AJI—F. G. Clissold, C/o. Station 2QN, Deniliquin.
2AOE—A. N. Wilson, Flat 1, 155 Parramatta Rd., Haberfield.
2AOU—H. F. Ruckert, 119 Evaline St., Campsie.
2APQ—P. J. Healy, 69 Taylor St., Bankstown.
2AQC—P. R. Ladd, 61 Bobbin Head Rd., Turramurra.
2ARL—R. W. Clemens, 68 Eastwood Ave., Eastwood.
2ASG—E. K. Broadbridge, 6a Burwood Rd., Burwood.

Victoria

3QX—W. S. N. Black, 4 Swanspool Ave., Chelsea.
3XK—S. R. Coleston, 6 St. Vincent's St., Glenhuntly.
3ABG—J. A. G. Miller, 35 Morgan St., Glenhuntly.
3AFA—A. Jacka, 16 Francis St., Bairnsdale.
3AFJ—K. E. Pincott, 14 Dunscombe Ave., Ashburton.
3AKQ—K. J. Lloyd, Railway Place, Elmore.
3ALI—P. L. Lempriere, Cr. Commonwealth and Golf Rds., Barwon Heads.

Queensland

4PA—A. L. Price, Tonks Rd.. Moorooka, S.4, Brisbane.
4PQ—N. L. Martin, Wallace St., Bell.

South Australia

5GE—R. G. Pitts, Flying Doctor Base, Alice Springs.
5HO—C. L. K. Bullock, Meteorological Office, Darwin.
5JQ—J. Neville, N.T. Comd. Sig. Sqn., Larrakeyah Barracks, Darwin.
5SR—R. Shortt, 356 South Rd., Glandore.
5XO—A. W. Kelly, Ohanez St., Berri.

Territories

9BJ—B. M. Johnson, C/o. Australasian Petroleum Co., Port Moresby.

ALTERATIONS

VK—

New South Wales

2CF—Flat 3, 6 Buckhurst Ave., Point Piper.
2NS—222 Keppel Street, Bathurst.
2ADN—Tasma Theatre, Coffs Harbour.
2AEZ—64 Railway Street, Gosford.
2AIO—33 Pacific Pde., Toowoon Bay, via The Entrance.
2AMM—28 Crown Street, Stockton, Newcastle.
2ARY—71 Mansden Street, Boorowa.
2ASP—18 Oliver Street, Harbord.
2AWU—12 Anzac Street, Canterbury.
2AZN—57 Redgrave Road, Normanhurst.

Victoria

3AV—63 Robinson Street, Dandenong.
3DZ—49 Marlborough Street, St. Kilda.
3IT—Belmont Road, Croydon.
3MH—McCrea Street, Swan Hill.
3ML—90 Kooyong Road, Armadale.
3PR—8 Blackmore Avenue, Leongatha.
3SK—8 Lynedoch Avenue, East St. Kilda.
3SW—"Rannoch House," Newtown, Geelong.
3TM—34 Sebastopol St., Caulfield North.
3US—"Sharon," Koonwarra Rd., Leongatha; Postal: P.O. Box 126, Leongatha.
3VL—"Sharon," Koonwarra Rd., Leongatha; Postal: P.O. Box 126, Leongatha.
3ATM—Wantirna Road, Wantirna.

Queensland

4KB—Cambridge Street, Belmont, Brisbane.
4OA—"M.Y. Coongoola," C/o. Messrs. Watts and Wright, Byron Street, Bulimba.
4OX—15 Porter Street, Mackay.
4TG—53 Amarina Ave., Ashgrove, Brisbane.

Western Australia

6GL—131 Forrest Street, Peppermint Grove.

DELETIONS FOR SEPT. AND OCT., 1952

New South Wales: VKs. 2MV, 2NN, 2QH, 2SD, 2YQ, 2ABF, 2ABG, 2AIR (now operating under VK9YY), 2ALR (now operating under VK5DT), 2ATR, 2AWM.

Victoria: VKs 3BX, 3DL, 3AAG, 3AAK, 3AAQ, 3ACC (now operating under VK3AC), 3AFC (now operating under VK2AJI), 3ALU, 3AOS.

Queensland: VKs 4QL (now operating under VK2QL), 4VR.

South Australia: VKs 5IS, 5SC (now operating under VK2ASG).

Western Australia: VKs 6CS, 6HB (now operating under VK5HO), 6LQ.

Tasmania: VK7DJ.

Territories: VKs 1SD, 9XK (now operating under VK3XK).

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

N.S.W. V.H.F. GROUP NEWS

The next meeting of the W.I.A. V.h.f. Group had not been decided up to the 1st Dec., so missed the notes. The last meeting of this Group was a great success, there was large roll up and many new faces. The lecturer was Mr. Medena, of the C.S.I.R.O. He delivered a lecture on the probe type capacity, Q, and resistance measuring meter. Barry 2ABB thanked Mr. Medena on behalf of W.I.A. members for a very interesting night, after many questions were asked and answered.

50 Mc.: This band was almost dead when news came that 2JW and 2WH had worked 4XJ and 4CW. About a week later on the 27th Nov., 2ANF and 2VW worked 4HR and 4XN. Then 2LZ (Wentworth Falls) heard 2KF and 2FN on 23rd and 26th Nov. On the 29th and 30th Nov. the band opened to ZL, VKs 2, 3, 4, 5, 6, 7—a fine two days. 6DW/M/VK5 was worked from Sydney.

144 Mc.: 25th Nov. the band opened to the North and signals from Muswellbrook, Newcastle and Singleton were worked. Congratulations to all who QSOed DX for the first time.

Don't forget your skeds with VK3. We transmit at 8.30 p.m. and VK3 transmit at 8.35 till 8.40 p.m. each night. Who can say what may happen?

The Woy Woy field day went off with a bang despite the poor weather at first. Stations mobile were 2ANF, 2ARF, 2AGL, 2ATO, 2YE, 2OA, 2AAN. Congrats to Maurice 2AAN who found the hidden tx. 2JX at Leura heard the hidden tx at Woy Woy and worked many mobile stations. Why don't you answer Sydney calls Peter?

Sid Williams, 2AVK, at Katoomba, has just started up on 144 Mc., has a P38 rx and xtal control tx.

On 5th Dec. the Gladesville Radio Club held a barbeque which was well received by all who attended, it was a great night believe me. There should be more! Congrats to the organisers.

Mobile units have been doing the rounds lately and 2ABO, 2HE, 2AGL, 2ANF, and Gladesville Radio Club 2ADY have made many contacts in and around Sydney. All had very good signals. We think the longest mobile contact was from 2YM/M, at the Jib Bowral, to Pennant Hill, where 2ANF/M was in contact while mobile. Anyone had a longer contact?

3HK/M/VK2 was unfortunately not able to go on 144 Mc. owing to losing his xtal, but is on 6 mx. Keep a look out for him. We have heard of lot of Eric 3BD/M/VK2. He has a very nice signal on 6, last worked from Mt. Jibralta, Bowral, N.S.W. On 30th Nov., 2ANF heard 2TA Young on 144 and worked cross band six and two for some time, signals were S7-8, at 1208 hours.

Results of the big field day are now at hand. Awards were made as follows: The prize for the greatest distance on 144 Mc. was awarded to Ross 2PN, who worked Interstate from the Granites, near Batlow. He worked 3UI, a distance of 178 miles. V.h.f. Group Cup was awarded to Allan 2AST for the greatest number of contacts. He made 13 contacts. The Gladesville Radio Club prize was awarded to two chaps, 2WH and 2TA, for the country home station making the most contacts. The W.I.A. prize was awarded to John 2WJ, the Sydney home station making the greatest number of contacts. To all these fellows we send congratulations for a very fine effort. To all the others who participated, we say thanks a lot.

The V.h.f. Group take this opportunity of wishing you all a very Merry Xmas and a Happy New Year.—2HO.

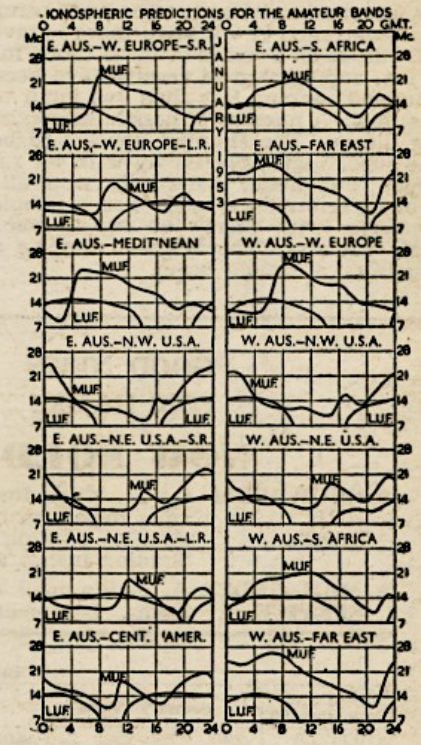
VICTORIAN V.H.F. GROUP NOTES

Overseas Amateur magazines show that long distance contacts are occurring fairly frequently on 2 mx in U.S.A. and Europe. Australian Amateurs are not exactly behind as far as long distance is concerned, but there are many signal paths yet to be spanned on this band from the metropolitan area. Persistent efforts will go a long way to achieving these contacts. With this in mind, VK2 and VK7 stations have initiated skeds with VK3 and other States. VK2 stations call us at 2030 hours for five minutes and then listen for our signals for five minutes. VK7 stations call us at 0645 and 2000 hours for three minutes, then listen for us for three minutes. There is also the possibility of getting through to other States and ZL. Let's give them our co-operation. Obviously, the greater the number of stations taking part, the greater the possibility of contacts occurring. It is suggested that in these tests use be made of keyed c.w. with a T9 note.

In the metropolitan area activity has been improving. Interstate openings and the Ross A. Hull Memorial Contest have again livened up 6 mx. 3AYJ is often on from Mt. Dandenong. Operating on 52 Mc., he is putting out quite a good signal. In the N.E. Zone, 3UI and 3APF are cooking up some mobile gear for 6 mx. 3JK will soon be on the band and is already active on 2. We are pleased to know that 3CI is making good progress after the accident. Better stick to v.h.f. aerials Sid!

On 2 mx, 3AOL, of Belmont, near Geelong, has reappeared on the band. 3UG, 3AKE, 3BW, 3ZL, 3GM, 3AEB, in the nearer country centres are maintaining consistent activity. 3XA, who operated portable from Mt. Stanley

PREDICTION CHART FOR JAN., 1953



early in November, succeeded in contacting 2WH at Forbes, a distance of 219 miles. Signals were R5 S4 both ways. 2AMV, also at Forbes, reported hearing Don's signals. Don contacted 13 different 2 mx stations while at that location.

The V.h.f. Group meeting was held on 19th Nov. Reports were given by those operating on the last field day. Despite the unsettled weather on that day, 2nd Nov., there was a fair amount of activity on 144 Mc. Portable stations active were 3ADU, 3JO, 3ZL, 3YS, also a number of home stations operated. A sum of money has been allocated by the VK3 Council for prizes in the v.h.f. field day contest and details will be publicised later. 3ADU showed the Group his 2 mx portable set-up and described the relevant details.

Have you previously operated portable equipment from some high open air location? If not, may we suggest that this would be a pleasant way to spend the Sunday afternoons of 1st Feb., 15th March and 26th April, for these are the dates of the remaining v.h.f. field days for this season. Portable gear need not necessarily be elaborate. Some are using xtal controlled tx with two tubes to give r.f. output on 6 mx, and three tubes for 2 mx, and very good results have been obtained running less than 3w. input to the final. A number of possibilities exist for the rx. The simplest appears to be the super regen, preferably with an r.f. stage. For better selectivity and all-round performance, most use a simple converter with shortwave rx, or complete v.h.f. rx. The antenna may be a dipole or a simple beam.

Victorian V.h.f. Group meetings are held on the third Wednesday of each month at the Institute rooms, 191 Queen St. Listen to 3WI for further information. Incidentally, transmissions are now being radiated on 6 and 2 mx from 3WI simultaneously with the 40 and 80 mx news broadcast. Modified TR1143s on 51.016 and 146.25 Mc. respectively are used, feeding single bay turnstile antennae. All those who assisted, and donated equipment for this set-up, are duly thanked.—3ABA.

QUEENSLAND

The following 50 Mc. news is to hand from 4XJ of Bundaberg, Queensland:—

VKs 4CW, 4BJ and 4XJ are active most evenings with 4CW watching the band each night at 8 p.m. and calling CQ at 8.05 p.m. Several openings have taken place. On 12/11/52, 2010 hours, and again on 16/11/52, 1005 hours, 4CW and 4XJ worked 5BC. 16/11/52, 0930, 4CW worked 2JW. 17/11/52, 4XJ worked 6BO (1137 hours) and 6HK (1144 hours). 19/11/52, 1200 hours, 4CW and 4XJ worked 2WH. 19/11/52, 4CW half worked 3LV and heard 3JD.

SOUTH AUSTRALIA

It was with regret that we learned that 5KL would not be able to continue with the v.h.f. notes. Any inaccuracies or short comings are due to the old saying that "one volunteer is worth ten pressed men." "Bully" Parsons pushed this on to me and I could not think of an acceptable excuse to dodge it.

'Twas Xmas Day just six years ago that the first v.h.f. Interstate contacts were made with South Australia. Since then contacts have been made with all States, New Zealand and New Guinea. The crystal ball, being a little cloudy today, no forecasts are available for the next half dozen years.

On 25th Nov. signals from the Hobart and Launceston 33 Mc. range were copied at Macquarie Island. On past experience this is a good sign provided we can get a few v.h.f. enthusiasts down those parts.

VK5's loss will be VK3's gain. 5MO has been disposing of quite a lot of nice gear prior to his transfer to Melbourne. No doubt sufficient has been retained to put a sig on the air in VK3. 5CR is reported to be an enthusiast on 288 Mc. and 'tis believed that he will soon be mobile marine on that frequency. 5ME was heard discussing an interesting piece of equipment. Wonder if he could be persuaded to publish it sometime?

The "Janitor" has constructed a super regen for listening to the local "hacks." Bet he is not game to put such a rx on 50! Whilst not at liberty to disclose this gent's identity one can now understand the connection some people have with the broadcasting game.

5MK heard t'other night from the new QTH, antenna is bigger and better than ever. 5FM and 5FL still going strong with their "tete a tete." The packpot question is, "will the DX season break this up?" Other stations active are 5XN, 5JH, 5KY, 5XA, 5SD, 5TD, 5JJ, 5KF and 5RR.

In the July issue of the Meteorological Magazine there appeared an interesting account of v.h.f. experiments in England.

DX NOTES BY VK7RK*

It always seems most unfortunate to me that the DX season coincides with so many other activities. Spring cleaning, gardening and all those other jobs so dear to the heart of the average XYL and so much objected to by the average Ham, all seem to claim attention when the bands are becoming interesting and all take their toll on the DX man's peace of mind. However, taking this factor into account and realising that the notes this month cover one week less by virtue of the fact that press closing time is 1st Dec., quite a few calls seem to have trickled into the various logs.

3.5 Mc., as is usual when the higher frequencies open up, takes a back seat. The noise level here has been far too high for serious listening and as no other reports have been received, evidently the same conditions apply alsewhere.

7 Mc. also in the rumble seat to a lesser degree. Most nights, QRN permitting, Ws and VEs make their appearance and it is not unusual to hear the gang indulging in quite lengthy QSOs. Early morning the Europeans are workable over a period of 2000z to 2200z. **3AHH** lists DL7AA, SM5ANY, YU, G and other Europeans, also VQ4AF—all between these times, plus ZK1AA at 0830z. **7RK** heard SM8ER, CT1EL, F8IW, OK3IA, YU1AHI, DL1PA, HB9CM and 4X4DR, giving an indication of what is available for the loss of some short period of sleep. From KV4AA comes the info that MP4BAU is still active on Qatar and is usually found around 7012 Kc.

14 Mc.: This band at the moment is capable of providing interest for all of each 24 hours. Early morning gives Europe, around 2200z to mid-morning North America long path, and an occasional African, from 0200z to 0800z all Continents, Asiatic and Pacific stations during the evenings, and Europeans again from 1200z onwards.

4XJ, despite increased 50 Mc. activity, found time to QSO MB9BJ, SM5ANY, PA0LZ, OK1HI, GM3CSM, OZ2PA, SM5AOI, SM3EP, 4X4RE, YV5AB, HS1VR, HA5FA, FB8BE, KG, KA, VS6, KH6, JA, KR6, KX6. At long last the silence from VK6 has been broken by a s.w.l, **Harry Price**, whose International S.W. League call VK6-4222 is well known among DXers. Harry forwards an imposing list of calls heard which include VS1's AS, EB, DQ, AG, EV, ES, FP, KV; VS2CR; VS7RS, AL; VS9EW, AW; VP1AB, VR7RI, VQ4ERR, CR7AR, 4X4BA, DK; ZS6's WD, QZ, MU, HN, BW, YW, AL; ZS5MA, ZS7BW, TA3AA, OH1PN, AP4UN, HZ1MV. Obviously by the string of Africans, conditions in VK6 are very much different to VK7 and for this reason this report is very welcome. Hans **3AHH** evidently likes this band too, on c.w. his stations include FA3OA (0730z), FO8AC, VE2DR at 1300z which is rather late for North America, CO2OE. **3CX** confirms my summing up of the band and singles out YV4AX, PJ2AD, VP6DG, KV4BA, KP4CC, KP4AZ as being fairly consistent during evenings. Alan has now received his awards for W.A.S.M. and Canal Zone 25.

7RK heard the usual run of things during the month and managed three new ones with GD3IBQ*, LZ1KAB* and SU1GG*. Some others were AP4A, 4UAG, 4UAS*, FA9RW, MI3LK (who was only interested in Ws), OQ5RA, ZS6ID*, ZS6YW*, CN8FR, LU6ART, LU6AJ, LU1CA, LU7AAD, PY1CK, TI2TG, CE3DZ, KV4AA*, KV4BA, CO8AQ, CO7AH, EA8FB, TA3AA, ZC4IP, MP4BBD, 4X4DH, 4X4FA, VU2AT, VU2CR, VU2EJ, FI8DN, FK8AB, CR9AF, FKS8AC, OH3OE, YU1DA, LJ3A*, DJ1BZ*, HB9MI, OE5DP, EA3CK, PA0RB, LA4KD, OZ2PA, EI5C, UL7KAA. One call which sounded unusual to say the least was PI1LS who said he was on the "weather ship, Cirrus, 61°N. 19°W."

Listings as specifically phone are: from **4CW** OE5KK, HZ1AB, VS9AW, OH2ON. His compatriot, **4XJ**, worked I1AUC*, HZ1MY*, ZM6AA*, plus W8. **3AHH** heard KP4AZ, KT1WX, ZS6BW, HC1FG, while at **7RK** those heard airing their tonsils were VK1RG, KG6ADZ, and VS9AW. This latter station is very consistent and puts in a solid signal down here.

21 Mc. is summed up very well by **2AWU** who says that the band is open practically every night to Europe and the near East. Activity fairly low during the week but much more pronounced at week-ends. On his two section 8JK, Walter worked OE1LF*, ON4AU*, GC3EML* and numerous Gs on c.w. and PA0MJH*, OD5AB*, OE1LF*, DL7AP*, YI2AM*, CT1SQ* on phone. So far I have not listened for phone on this band, but c.w. listings this month are OH2OP*, OH5NK*, G3JW, G6HL, G6CJ, DL1RB, DL2RO, HB9LB. Ws are workable on some mornings about 0100z. KV4AA is on regularly each Sunday from 1400z to 2200z. The Africans seem to have gone from this band and a perusal of past ionospheric prediction charts seem to indicate that they have passed their peak on this band for this year.

28 Mc. would be a washout were it not for **4XJ**. Les seems to manage his quota each month and this log shows him working W4KNW, W5KBP, W5VIU, W5BCT, W6VAD, W6BUR, ZK2AA, KG6FAA, KA2OM, KH6NES, KH6AOR, KH6ARE, KH6AFQ. Many thanks OB. Without you, the above few lines would be a complete blank.

QSLs received this month by **3CX** were FF8AC, HS1UN and EA6AM to make Alan's total 157 confirmed, out of 177 worked. **4QL** aroused my green eye with a card from CR5AD, while the best I could manage was KH6ANZ for my first 21 Mc. QSL.

QTHs of interest for those fortunate enough to QSO Zone 35 are: FF8AC, Box 6020, Dakar, Senegal, Fr. W. Africa; FF8AN, Box 971, Dakar, Senegal, Fr. W. Africa. Another that may be of interest is 4UAS (ex HS1UN) C/o. United Nations, Rawaepindi, Pakistan. SU1GG says QSL via R.S.G.B.

Of general interest is a note from KV4AA. Dick says to watch out for operation from Easter Island next January or February. CE3AG is to handle the c.w. and CE3CZ the phone end of the works. They will be staying 4 or 5 days and hope to work continuously under the call CE0AA. 2AWU advises, from G6QB, that the Gs now have all the 21 Mc. band for both phone and c.w.

My thanks this month to the following for contributions VKs 2AWU, 3AHH, 3CX, 4XJ, 4CW, VK6-4222, KV4AA.

As this should reach you during the festive season, may I take this opportunity of wishing those interested enough to read these notes all the Compliments of the Season and may 1953 produce, in spite of all ionospheric propagation experts, buckets full of that elusive but ever fascinating article—DX.

* 5 Galvin Street, Launceston, Tasmania.

DX C.C. LISTING

PHONE

Call	No.	Ctr.	Call	No.	Ctr.
VK4HR	12	167	VK4RW	23	115
VK3BZ	3	163	VK4JP	8	114
VK3EE	10	163	VK3AWW	14	112
VK3JD	1	155	VK4DO	20	109
VK6RU	2	152	VK5MS	24	109
VK4KS	9	152	VK2ADT	13	102
VK6KW	4	150	VK2AHA	15	102
VK3LN	11	141	VK3HO	25	102
VK4FJ	21	141	VK6PJ	19	101
VK3JE	7	133	VK4RT	22	101
VK4WF	16	130	VK3IG	5	100
VK6DD	6	126	VK3GG	18	100
VK4WJ	17	122			

C.W.

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	6	207	VK3XK	30	128
VK4HR	8	188	VK4RF	11	125
VK3FH	15	182	VK3YD	27	123
VK4EL	9	167	VK3EK	3	122
VK4FJ	29	165	VK3JI	25	118
VK2EO	2	152	VK3PL	38	117
VK3CN	1	151	VK3HT	37	117
VK2GW	16	151	VK3UM	12	116
VK5RX	23	150	VK3YL	39	115
VK3CX	26	150	VK7LJ	24	114
VK6SA	28	150	VK4DA	7	113
VK4QL	36	146	VK7LZ	17	112
VK3VW	4	143	VK4RC	13	107
VK2QL	5	142	VK6KW	40	104
VK6RU	18	141	VK2YC	34	103
VK3KB	10	138	VK3APA	14	101
VK5FH	31	134	VK3NC	19	101
VK5BO	33	133	VK2OA	32	101
VK4DO	20	129	VK7RK	22	100
VK3JE	21	129	VK2AEZ	35	100

OPEN

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	4	220	VK3VQ	46	116
VK4HR	7	208	VK2ASW	53	116
VK2NS	16	195	VK3AWW	45	115
VK3JE	12	190	VK3JA	43	114
VK6RU	8	186	VK2ADT	14	113
VK4FJ	32	184	VK3PG	47	111
VK3HG	3	171	VK3MM	49	111
VK6KW	13	171	VK4RC	21	110
VK2DI	2	170	VK3ZB	34	110
VK3KX	1	167	VK3HO	38	110
VK4EL	10	167	VK2ZC	25	108
VK4KS	24	167	VK2YL	11	106
VK4DO	15	157	VK3AWN	36	105
VK3LN	29	144	VK2VN	18	104
VK5FL	26	143	VK4UL	27	104
VK3MC	5	139	VK6PJ	44	104
VK3OP	19	137	VK6PW	50	104
VK4WF	40	137	VK2HZ	17	103
VK6DD	22	136	VK7KB	30	103
VK3HT	41	135	VK2TI	37	103
VK2ADE	28	133	VK6DX	42	103
VK9GW	48	133	VK7RK	31	102
VK2AHA	9	128	VK4TY	35	102
VK2AHM	20	125	VK5HI	51	101
VK4RW	52	121	VK2ACX	6	100
VK3JI	33	119	VK2TG	39	100
VK7LZ	23	116			

FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

DEPARTMENT CONSIDERING A.O.C.P. AT 16 YEARS

Application has been made to the Postmaster-General's Department, Wireless Branch, for the issuance of Amateur Operators Certificates of Proficiency at the age of sixteen years instead of at eighteen years as at the present time. The W.I.A., after careful study of this question at more than one Federal Convention, has advanced strong reasons for this request although the Institute in doing so is virtually reversing its policy of some years past; such is the necessity in a changing world and expanding technical field.

Although the Department has said that an amendment to paragraph 35 of the Wireless Telegraphy Regulations would be necessary, and that investigations in collaboration with educational authorities and other interested parties would have to be conducted, the Department has intimated its interest in W.I.A's. representations and enquiries are proceeding on this question.

NON-AMATEUR STATIONS IN THE HAM BANDS

The main complaints of Commercial stations operating in the exclusive Amateur bands concern the bands 7.0-7.150 Mc. and 14.0-14.350 Mc. allotted to the Australian Amateur Service. In the case of the 7 Mc. band, although the portion 7.0 to 7.10 Mc. is allotted to the Amateur service on a world-wide basis, in Region 1 (Europe) and Region 3 (including Australia) the band 7.10 to 7.15 Mc. is shared between the Amateur and Broadcasting services. Paragraph 159 of the Atlantic City Radio Regulations, quoted below, indicates that the broadcasting service is accorded priority of operation in the band concerned.

"159. In Australia and the Netherland East Indies, the band 7100-7150 Kc., and in China and New Zealand, the band 7100-7300 Kc. may be allocated for the Amateur service. The administrations of the countries mentioned in this note shall take all practicable steps to avoid causing any harmful interference to the broadcasting service and will ensure that Amateur stations do not use a peak power exceeding 100 watts. If however, harmful interference to the broadcasting service is experienced, these administrations will consider reducing the use of these bands by the Amateur service."

The Department is aware, however, that Commercial stations of other Administrations are operating in both the 7 and 14 Mc. Amateur bands. In view of the fact that all administrations signatory to the Final Acts of the Extraordinary Administrative Radio Conference which concluded in Geneva in December, 1951, are at present actively engaged in endeavouring to implement the Atlantic City Frequency Plan, the period of adjustment of which will continue until after 1955, it is felt by the Department that representations concerning out of band operation could have little force at this stage and might, indeed, tend to harass some administrations which have always been most co-operative in protecting Australia's interests. The Department has therefore advised that it does not propose at this juncture to institute action against the administrations whose transmitters are causing interference in the exclusive Amateur bands.

W.I.A. intend to watch the implementation of the Atlantic City Frequency Table closely over the next few years, especially should, during that time, another International Convention take place when representations can be made on behalf of the Australian Amateur service for the frequency allocation 7.0 to 7.3 Mc. enjoyed by other Region 3 Amateurs.

RE-ALLOCATION OF CALL SIGNS

The W.I.A. requested the Department to review the conditions under which call signs previously issued were re-issued to another Amateur to avoid embarrassment in the case, particularly, of recently deceased Amateurs. Several changes in the current system of station call sign re-allocation was asked for, but although the Department admitted its appreciation of the sentimental value placed on call signs by individual Amateur station licensees, it would not in the interests of economic administration introduce a system which did not show practical advantages over that in current use. In reviewing the position, however, the Department has advised that as from this time forward the following procedure would be adopted in the issuance of call signs:—

(a) Where licenses are relinquished because of the death of the licensee, call signs shall not be re-allocated for a period of five years unless to a member of the family of the deceased; and

(b) Call signs relinquished for other reasons will not be re-issued except to the previous holder for a period of two years.

These reservations will be conditional on submission of an appropriate application in each case.

A former licensee seeking the re-issue of a license after inactivity extending beyond the aforesaid period of two years will be granted the use of his previous call sign if still available, and a licensee who changes his place of residence from one State to another will, on request, be allocated the same call letters in his call sign if they have not been assigned to another station. This is the general practice at present. It is also agreed that the periods mentioned above shall not include periods during which Amateur activity is banned othe than for breaches of license conditions.

RECORDING AND PLAYBACK OF OTHER AMATEUR'S TRANSMISSIONS

In the past permission has been granted, upon application to the Superintendent, Wireless Branch, in the State concerned, for ten Amateurs in VK2 and VK3 and five Amateurs in each of VK4, VK5, VK6 and VK7, to record or approved equipment and re-transmit the transmissions of another Amateur station. Under these conditions half of the number in each State was to be composed of Institute members and half non-members except that should in-

sufficient applications be received from non-members, the vacancies could be filled by Institute members.

As this has been considered by some to be restrictive in view of the fact that Amateurs so granted this privilege hold it for twelve months, the Institute asked the Department to abolish the existing conditions and permit any Amateur to record the transmission of another station and play it back over the air.

Provided that individual licensees desiring to record and re-transmit transmissions upon request from other stations obtain permission to do so from the Superintendent, Wireless Branch, in the State concerned, who must be satisfied that the recording equipment to be employed is capable of producing recordings of good quality, the Department has now agreed to the proposal which became effective as from the 1st November, 1952.

AMENDMENTS TO THE FEDERAL CONSTITUTION

Under the direction of the Federal Council of the Wireless Institute of Australia, the Federal Executive hereby gives notice that it is intended to alter the Federal Constitution (1947) of the W.I.A. as follows:—

Section 8: By deleting after the word "and" in the second (2nd) line the words **"three representatives of."**

Section 16: By deleting after the word "meet" in the first (1st) line the words "annually at the Annual Federal Convention" and inserting in lieu thereof the words **"at the Federal Convention."**

Section 29: By deleting the words **"The Federal President, the Federal Vice-President and the Federal Secretary shall be ex-officio members of the Federal Council and shall have one vote on behalf of the Federal Executive in decisions of the Federal Council"** and inserting in lieu thereof the words **"The Federal Executive as constituted under Section 20 shall be ex-officio members of the Federal Council."**

Section 44: By deleting the words **"The Annual Federal Convention shall be held once in each year at a time and place to be determined from time to time by the Federal Council,"** and inserting in lieu thereof the words **"The Federal Convention shall be held at a time and place once in each year or as otherwise determined by Federal Council."**

Section 52: By deleting after the word "Council" in the third (3rd) line the words **"provided that the Federal Executive shall have the right to one vote (see Sec. 29),"** and after the word "vote" in the ninth (9th) line the words **"irrespective of whether the latter be on behalf of the Federal Executive or"** . . .

Parts One (1) to Seven (7) and the interpretation (Page One): By deleting where they appear in any Section thereof the words **"The Annual Federal Convention"** and inserting in lieu thereof the words **"The Federal Convention."**

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NEW SOUTH WALES

The November meeting of the N.S.W. Branch was held at Science House on Friday, 28th, with the President, John Moyle, in the chair.

A special meeting started at 7.45 p.m. for the purpose of passing a motion asked for by the Registrar General's Department adopting the new constitution. It appears we only **agreed** to adopt them before and that wasn't good enough!

The ordinary general meeting followed with a smaller attendance than usual (about sixty-five), some, no doubt, being deterred by the nature of one of the two main items of business, the discussion of agenda items for next year's convention—if any! Some eight items were adopted with not very much argument.

Other business, such as minutes, correspondence and the chairman's round-up of news and events occupied the time until 9.20 p.m. and then the other main item of interest was introduced. This was in the form of a quiz session with Neville Williams as Quizmaster complete with academic cap and gown and four quiz kids complete with name-plates and theme song! The quiz kids were Alan 2BF, Jack 2OF, Vaughan 2VW and Bob 2OA.

Although an element of fun was introduced from time to time, a lot of excellent technical questions were handled in masterful manner by the team and Neville was a real success in the major role. We must have more of this and now that we know how to go about it and what sort of questions to bring along, an interesting evening can be assured. The meeting broke up shortly before the 11 p.m. deadline.

ST. GEORGE ZONE

2GS has been active on both c.w. and phone on 40 mx in the last few days. 2ABA is active quite regularly on 20 mx. 2ASK, home from abroad, found to his sorrow that his crystal microphone has become defective owing to dampness, even though all precautions had been taken to protect it. 2ACK is building a 2 mx converter using a 6AK5 and a 12AT7 as mixer and tunable osc.2 Steve 2YR listened on 2 mx during the long week-end but had not heard any portable stations up to the Saturday night. Reg 2HM gets out quite well on 8 watts, but as yet is still rock bound. 2AIG has supplied him with circuit and constructional details of a small v.f.o. which he intends to build eventually; also hopes to get on 2 mx after Christmas. 2AJQ has been waiting for 2XX to get back on the air so that he can recommence his 2 mx work. Ted 2XX is back from Yamba, reputedly looking like Jack Johnson; Ted is our most active v.h.f. man and if he starts up his "night-owl" calls on six, two, and a half mx at 2230 few stations needing test signals on those bands should have no difficulty in finding him.

My phone number has been changed to LJ 2277. That is in case any of the boys should like to ring through some news. I will take this opportunity of wishing all, the Compliments of the Season.

SOUTH WEST ZONE

Ross 2PN active on 3.5, 7 and 144 Mc. Roy 2DO heard on 40. Geoff 2BQ experimenting with 144 Mc. gear, also active on 80. Ross 2PN and Geoff 2BQ made the trip to the Granites and after a bad trip and under adverse conditions, had a very successful day during the 144 Mc. field day. Some contacts were 2ANF/P Conoblas, 2TA Young, 2AJO Coolamon. Ross uses a 12 element beam, SCR522 tx and 522 rx.

Alf 2BW active on 40 and 80, also very interested in 144, has SCR522. 2RH active on 80, 40, 20 with new antenna for 20, and interested in 144 Mc. Stewart 2PL active on 40; reports

N.S.W. Division's Annual Field Day

The Annual Field Day of the N.S.W. Division was held at Woy Woy on Sunday, 16th Nov.

For the third consecutive year, over 200 persons attended to be entertained by a non-stop programme running from 10.30 a.m. to 4 p.m. Despite all the efforts of the weather prophets the day was fine—we have never had a wet one for the event!

A representative gathering of Amateurs from all parts of the State attended, including big parties from Sydney, Newcastle and Wollongong. Amateurs included VKs 2GA, 2HO, 2RU, 2ABU, 2EL, 2UV, 2KG, 2IC, 2OF, 2EG (VK1BS), 2LX, 2ACD, 2ASJ, 2ZC, 2LR, 2FP, 2DZ, 2NI, 2AVG, 2APA, 2AIR (VK9YY), 2CS, 2XT, 2WJ, 2AJZ, 2AHY, 2AMW, 2ARV, 2ACC, 2CN, 2AGD, 2AAB, 2AGG, 2ZM, 2ARF, 2AOJ, 2ASW, 2AXZ, 2ANF, 2AEF, 2AML, 2IG, 2SF, 2HE, 2OA, 2OT, 2ACU, 2AZO, 2ART, 2EO, 2VW, 2FT, 2RP, 2AGL, 2YE, 2YL, 2UY, 2VY, 2VJ, 2NX, 2AAN, 2ATO, 2ABR, 2ASF, 2AEN, 2XU, 2JU, 2RX, 2NG, 2VG, 2ID, 2VU, 2QZ (YJ1AB), 2YC, 2EH, 2AKR, 2KR, 2BF, 2AJQ, 2VL, 2ADT, 2HZ, 2ZP and 2AJJ.

The field day was officially opened at 11 a.m. by the State President, John Moyle, 2JU, and the morning was spent participating in various competitions run for both the XYLs and OMs. The all-band scramble (any power, any band, the most contacts in half an hour) was held during this period.

The 144 Mc. hidden tx search was conducted at 2 p.m. In recent years the tx had always been found in a matter of minutes, it was decided to make the search more difficult this year. It was located in a position more difficult to reach, and at a greater distance from Woy Woy, only two parties out of 16 participating were successful in their search, run over the prescribed hour. Winning time was 45 minutes.

The afternoon was devoted to special events for the ladies and kiddies, special plans had been made to ensure they enjoyed themselves.

The results of the various events and competitions were as follows:—

All band scramble: 1st, 2AAB; 2nd, 2ARF; 3rd, 2ZC. 144 Mc. tx search: 1st, 2AAN; 2nd, 2ADT. OM's lucky number: 1st, 2ABU; 2nd, 2AIR. Frequency of an L/C circuit: 1st, Henry of 2AMW; 2nd, 2ACC. OM's quiz: 1st, 2GA; 2nd, 2ACD. XYL's lucky number: 1st, Mrs. 2VU; 2nd, Mrs. 2ACD. XYL's quiz: 1st, Mrs. 2AML. Roll the penny: 1st, Mrs. 2SF. Pick the melody: 1st, Miss 2KG. Drive the nail: 1st, Mrs. 2DG. 832 raffle: 1st, 2KG.

The many prizes were presented to the winners by the President of the Hunter Branch, Lionel Swain, 2CS, during the official session in the afternoon. John Moyle, 2JU, in officially closing the day, thanked all those attending for their co-operation.

Wal 2XU, Divisional Councillor, acted as M.C. and was responsible for the general organisation. The efforts of local members Cess, 2KR and his wife, and Johnnie 2GA, made the running of the event possible and as usual they performed a fine job.

The swop table conducted by Major 2RU was popular, as was the bran dip in which prizes varied from a 1923 pick-up to quite useful gadgets. Jack 2OF as usual presided in the kitchen, Maurice 2AAN and Dick 2RP dispensed, Bill 2HZ and Jim 2YC were responsible for registration, Harley 2SF brought the dispensing materials supplied by Bob 2AFS, John 2JU recorded the ladies' melody competition.

John 2ANF, Bob 2QZ, 2EW and Es Griffiths operated the tx that was so hard to find, State Secretary Dave 2EO and Federal Councillor Vaughan 2VW assisted generally. Ern 2ASE brought along special prizes for the youngest child and XYL present.

To date no complaints have been heard about the event, even the XYLs approved, when they do express support for their OM's organising efforts, that is news—it's practically a miracle. Seriously, everyone present enjoyed the day, the next one will be even better, so CU at Woy Woy in 1953.

that a Radio Club has been formed at Griffith. Stewart and family made a visit to 2AJO at Coolamon. Has now been bitten by the 144 Mc. bug and is getting gear together for that band. Peter 2APP heard occasionally on 40. Don 2RS active on 80 and 40, and also has 144 Mc. gear.

NORTH COAST AND TABLELANDS

Russ 2WT believes he had first 21 Mc. phone contact VK to G and GM on Sunday, 16/11/52. Any challengers? Russ and family going to Urunga in December for holidays. Terry 2AJS back on 40, whilst Perce 2QV putting in a lot of time on 20, and 2AEY will shortly be active on 6 mx. Bill is busy getting the new Taree b.c. tx ready to take the air. Peter has been hearing lots of DX on rx of a prospective Ham high in the hills between Port Macquarie and Kempsey and thinking of putting his antenna up there. Harry 2ARY has departed from Bellingen for parts unknown. A likely newcomer to Bellingen is Alec 2TG, transferring from Casino. Len 2LR had an enjoyable trip to Woy Woy "Do" and was pleased to meet all who were there.

An interesting flood network has been set up on the Macleay River. A 5 watt battery operated transceiver has been installed at Bellbrook, 35 miles odd west of Kempsey, and rx's have been installed at Kempsey and Grafton. The equipment has been provided by the Police Department and was installed by Ray 2QG and Norm 2LC, both of whom spent a little time with a few of the boys on the North Coast. Crystals were left at various police stations on the coast for use on police frequencies in times of emergency. Crieff 2XO was the only Ham given the crystals direct because of his isolated position. It is understood that negotiations are under way with the P.M.G. Department to permit periodic tests with the Police Dept.

By the time you read these notes Christmas and New Year will have passed, so I wish you all a happy and prosperous 1953 and trust you all enjoyed the festive period.

HUNTER BRANCH

The lecture on "Audio Limiting," given by Jim 2ZC, at the November meeting, was exceedingly well presented, and no doubt will start another phase of equipment building in this district.

The Branch was well represented at Woy Woy and thanks to 2KR, 2XU and company, all had jolly good day. When our President 2CS was asked to present the prizes, he found that Hunter lasses had scooped the pool in the ladies' competitions. They upheld Branch prestige as our OMs didn't do so well this year! Members took advantage of an invitation to attend the November meeting of the I.R.E., and learnt much from a lecture on "Communication Receivers," by Reeder G. Nicholls.

A sudden appendix operation for 2AAI, but Ron doing OK now. Well known Ham 2IS very ill. On brighter side, Charlie 2ARV joining local gang—house hunting now. Other new Hams in area are 2SU Redhead, 2ABX Warner's Bay, and 2EG (ex-1BS) at Muswellbrook. Sorry to lose Mac 2ARK to N/C zone. V.h.f. bands popular now; 2ADS and 2AGY on 6 and 2 regularly. 2ANL on 6 for DX season. Max 2OT hearing all on 144 and transmitting on 50 Mc. 2BZ has moved into the v.h.f. QRM factory at Lambton! 2XY using BC342 RA10 set-up for double conversion. 2PJ purchased MN26 rx and building converter for Ham bands. 2AMM still busy with cactus! Merv 2AAM sat for b.c. ticket—good luck OM. 2AFA's civvy job keeps him off air. At Toronto, 2KQ on 6 only; still using fixed beam. John 2XQ getting some DX on 21 Mc. 2AKP never on! Tape recorder working overtime at 2AGD's. Bert 2CN enjoyed himself at Woy Woy. With the old 20 mx zepp, 2KG working plenty Europeans on c.w. at night. 2AHA and gang preparing for National Field Day. 2DG QRT as wiring up in new shack.

President 2CS' next headaching project will be a "double action" audio compressor. Vice-President 2DZ working hard on cobwebs on tx. Secretary 2SF now has a 50 watt mod. tranny thanks to 2FP. By the way, Ernie will get his own rig going over the Xmas holidays. Treasurer 2XT watching our financial interests, and making steady progress re-designing shack layout. 2AFX still making threats to come on! Thanks are due to Harold 2LV for printing invitations, etc., for Xmas Party. Lew 2WU not so active lately. 2ANA occasionally on 40 for ragchew. 2ZC on fishing holiday at Forster —putting out nice sig on 40 from the portable rig. 2ASJ says thanks 2XT for f.b. trip to Woy Woy, and wishes everyone a Merry Xmas, and lots of DX, etc., in 1953.

Notice of Meeting.—The first meeting for 1953 will be held at the Tech. College, Highes Hill, on Friday, 9th January. President Lionel Swain will lecture and his subject, "A Single Control 5 Band 50 Watt Transmitter."

VICTORIA

SOUTH WESTERN ZONE CONVENTION

November 8 and 9 was the time for the half yearly Convention for the South Western Zone. The location, Ballarat. The weather, far from good.

Things got under way with a dinner at Craig's Hotel at 6 p.m., twenty-seven persons being present and an excellent meal was fitted in amongst a lot of ragchewing. Our thanks go to Bob 3GR who made all arrangements for the dinner and also for the use of a room for the night.

Two tx hunts were held in the evening. For those who are still disbelievers, two tx's were used for the first hunt. 3ASV at the home station and 3AMH portable. We wonder if 3AGD has regained his hearing yet—after pulling up outside Jack's place to take a bearing just as Jack switched on his tx; S9 plus was the report, I think. However, even with the trickery, all cars found 3AMH, the first car being 3AGD. The second hunt was located on Black Hill and this proved an ideal location as it was necessary to travel around the tx and approach from the rear. The boys from Warrnambool missed their chance here by staying at the top of the lookout. First car in was 3AGD. Everyone then retired to the rendezvous for a good ragchew before bed.

Sunday morning the weather was worse, if possible, and eleven cars departed to find the tx, this time located in the forest behind the White Swan Reservoir. A very fine effort was made by 3AKE who arrived at the tx before your scribe who left just after the gong and knew where to go. Nice work Ed. Where was the expert, did you say? 3AGD tried to go up a dead-end road. Tough luck John, but that's why the tx was in that location. Eric Hall put up a good effort here by almost getting through this track, near enough to check in fourth.

At the end of this hunt everyone travelled to Calambeen Park, Creswick, where we met a large number of Melbourne visitors including the State President and Secretary. A picnic lunch was eaten here, in amongst a lot of ragchewing, and even more mud.

After lunch a further hunt was held on the way back. It is said that the Renault was

bogged at this location, but is a baseless rumour that it was lifted out and set on dry ground. This hunt was won in fine style by 3AGD who approached the tx with the bow wave of a speed boat. Eric Hall managed to get bogged after this hunt and had to be towed out by 3AGD. A case of the biter bit.

We hope that the convention was enjoyed by all who were present and hope to see you all again at Warrnambool next April.

CENTRAL WESTERN ZONE

Zone fairly quiet this month. Hook-up attendance on Wednesday nights averages about six stations, however what we lack in attendance is made up in variety. Last hook-up saw two phone stations, two c.w. stations and one s.s.b. 3YW pushing ahead with s.s.b. with a new mixer and has reached such a state of perfection that he is now allowed on zone hook-ups with s.s.b. Cec should have everything good by next year to resume Secretary's job.

Charlie 3IB has new rx in operation and is using it to good advantage in knocking over the DX. 3ATR and 3AKW attended Ballarat Convention and a good time was had, but not being accustomed to the wet, came home a little bedraggled.

NORTH EASTERN ZONE

Syd 3CI is now out of hospital and in a plastic cast which reminds him of the heat a good deal now. Doug 3IJ has returned to Avenel to keep Chas. 3ACW company in the Amateur and Commercial radio field. Alan 3UI has been taking advantage of the 6 mx openings and has built a new portable 6 mx rig running 5w. input.

Col 3WQ has got shrewd after a summer in northern VK3 and cuts the wood and does the hard work when it is cool. Jack 3PF is like 3FD and very busy "cockying" with very little time for Ham Radio. Ken 3KR is receiving congratulations on his winning the McCartney trophy. Henry 3HP did not come on the hook-up while Tom 3TS and Rex 3UR are bowling along quietly. Vic 3ABX is seen ut not heard on the hook-up.

EASTERN ZONE

After a very strenuous and active year, the boys met for a final get-together last month at Leo 3SG's place; it being the annual Christmas party of the Sale Sub-Branch. Plans were made for field days and other activities for this year, and much emphasis is to be placed on v.h.f. and the emergency net.

Keith 3SS is the zone leader of the emergency net and there is, and has been, great interest and activity in mobile and portable working. Bill 3AWW, from the R.A.A.F. at Sale, has a xtal controlled push-button mobile rig in his car and Grahame is getting the Type 3 cranked up as a mobile rig. George 3AOD is also working on a 3.5 Mc. tx-rx complete with handset, while Peter 3IZ is using his Command mobile set-up as the station rig, running 100w. and drives it with a No. 19 genemotor for mobile and portable use. Charlie ex-5QY, from Darwin, has been operating from Port Albert portable as 3QY, using a Type 3 Mk. II., and provided much local interest. Jack 3FK is still putting a c.w. signal out on 14 and 7 Mc. What about building a modulator and coming down to 3650 Kc. Jack?

David and Peter still playing with v.h.f. A four element Lenfo is in use at 3IZ and 3SS is erecting massive tower structures. John at Yarram is having much fun building Clapp v.f.o. and Ossie 3AHK even more fun with his "modulding device." I don't think it's a modulator, is it Ossie? Ron 3PR is busy building fences to keep the cows from tripping over the guys of his antennae poles; hope to hear his sig on 80 mx again soon. Geoff 3AGF is still moving to VK4, and at present is active with Joe 3TO on 21 Mc. No signal from Alan Jacka at Bairnsdale, we're stilling looking forward to it. Doug Hale is heard now on 3.5 Mc. and also Lindsay 3IO with his Type 3 Mk. II. John sits for his theory exam in January and Ossie reckons he should do alright if they ask any questions about c.r.o's. David sitting for c.w. at the same time. The other associates are very keen on the swot also.

GEELONG AMATEUR RADIO CLUB

The first meeting of the month took the form of a field night. These hunts are very popular with the members and more have been arranged. The tx was hidden at Monpellier, two miles from Geelong, and operated by 3AKE and 3APK. The club's call 3ATL was used and operated on both the 80 and 2 mx bands. First to arrive was J. Beckingham and 3WT, followed five minutes later by Max Stock and 3ALG. At the next meeting 3AKE gave a report on the Ballarat Convention, after which each Ham present gave a description of the aerials they use. This was by request of the non-Hams present. A visitor to the club on this occasion was Mr. J. Consedine.

QUEENSLAND

The monthly general meeting of the VK4 Division was held on 21st November, 1952, with 23 transmitting members present and a sprinkling of students. Visitors welcomed were Alick Fong Yan VS6BH and VK2ABZ (a VK4 old-timer). The former is now permanently resident in Brisbane and has made application for VK4 call sign. Let's hope he settles on the north side, hi!

An Assist. Secretary was appointed; catch 'em young they say, because Paul Green, 4VS, just obtained the coveted ticket and just to cheer the youngster along a bit let's wish him well and hope that he may find time for one QSO per month during his busy time at official duties as Assist. Secretary. It may be opportune time to encourage young members to take an active part in Institute affairs and indicate their willingness to take office in the new Council elected in March, 1953.

Some criticism was offered by 4AO on the technical articles appearing in "A.R." He claimed repetition of articles from other magazines, etc., but the correct and genuine feeling of the meeting was soon made evident by replies from 4SV and 4KB, particularly Mr. Kelly, who delved it out in precise and accurate words that the technical articles in "A.R." were of the highest order and worthy of great praise. The President ably applied the gag when 4AO appeared to be set for the night. The writer would suggest that any person not satisfied with these articles referred to, should set about completing technical articles for publication even if the author be the only one sufficiently well up in knowledge to understand them.

Another item of interest that was discussed was concerning the Civil Defence Scheme incorporating the Emergency Net and it was decided that although in some official channels our offer was not accepted, it is being kept in working and efficient order for peace time emergency.

The meeting concluded with an interesting lecture by 4AW on V.h.f. Technique which was very well delivered and received.

Some good DX was worked at the writer's QTH on 21 Mc. during the "CQ" C.W. Contest, in fact from casual operating 10 zones, 12 countries were worked. 14 Mc. has not been outstanding and apart from the usual Europeans nothing new worked except ST2HK 2035 G.M.T. 10/11/52, JY1AJ 1230 G.M.T. 12/11/52. VS9AW, MP4HBK, EQ3AL, Y12AM came through at good strength around 1300 G.M.T. most evenings. Worked ZK1AZ on 7 Mc. 0735 G.M.T. 17/11/52.

Summing up conditions generally, it appears a beam is necessary now to do what one could do on a piece of wire two or three years back. 4YA has a 14 Mc. beam under construction. A lot of improvement could be made in operating technique on the bands, particularly 14 Mc. when the DX is breaking through. When working Interstate might I suggest a channel could be chosen that won't QRM the DX merchants. "All fellas please note."

The writing of these notes has been take on pro-tem by 4FJ for the want of someone better, although this is seemingly of little importance because of its omission from the news broadcast on the Sunday following the meeting so are there any offers for the job? Xmas will be past when these notes are read, so I will take this opportunity of wishing everyone a Prosperous New Year and for the DX men I hope that the DX C.C. lists will be enhanced by many more VK4 call signs.

NOTES FROM THE NORTH BY VK4EL

Ted 4EJ at last has come up on the 14 Mc. band and has started off by working a string of Europeans. My old pal Bob 4RW seems to be the most active of the Townsville gang, has been heard on both phone and c.w. knocking over some nice ones on 14 Mc.; says he has a new recruit for next exam., none other than his boss, hi! Harry 4HV heard with a nice signal on 14 and 7 Mc. one night; keep it going mate, someone must get on up here. Harry 4ZP been working a few nice ones on 14 Mc., seems the vertical is working out f.b.

Geoff 9GW knocking 'em over on 21 Mc. in great style using an 8JK, uses 28 Mc. also but reports it "not so hot." Doug 9DB has bad noise level to contend with, but will shortly be active on 14, 21 and 28 Mc. My old friend Carl 9YT, has built a new rig for portable operation on 7, 14 and 21 Mc., it is a re-built Command tx; Carl will use it en route to his island visits.

9CG soon hopes to be going, but won't go on until his QSL cards arrive from the South; what a man, wish others would follow his example, this "send you a card when I get yours" technique doesn't work out, if everyone thought the same! Will be on with an ATR13 and Eddystone rx, good luck OM. 9WK has fine beam just completed but no time to try it out as yet. 9MY quiet lately due lots of work. 9WG, a real old-timer, who has been on from G, XZ, VS6, VK7, will have yet another call on the air in a few weeks, so won't be short of old friends to contact.

That is all I seem to have for this month. I would like to ask some kind friend in the Cairns or Mackay district to drop me a line on the doings in their respective districts, or these notes will shortly dwindle away to nothing. Not much to report from Clevedon, mostly on 21 and 14 Mc.; my G5ZA skeds going a bit better, and plenty of DX being worked on 21 Mc.

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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division for November was held in the clubrooms to the usual good roll-up of members. The guest speaker for the evening was Mr. Gordon Bowen (5XU) who chose as his subject, "Atomic Based Primary Standards of Length, Time, and Mass." In introducing his subject, Gordon explained that the long accepted rotation of the earth as a primary standard was no longer sufficiently accurate enough to be accepted by scientists and they were now turning to the atom and its component parts, the proton and electron, for the basis of determining new primary standards. Gordon gave several illustrations to demonstrate the above, one being that the present systems of timing or measuring lengths was by no means accurate enough for even radar equipment, and also that a standard which would be common for all places of the world was needed.

The lecture was extremely interesting, it was given in a very down to earth manner, and judging by the reaction of all present, was assimilated and enjoyed by those present. The usual vote of thanks to the lecturer was ably proposed by Athol 5LQ and the response of the members should have more than satisfied Gordon. Among the visitors were Messrs. Lloyd and Badcock.

It is with regret that Council accepted the resignation of Clarrie 5KL from the position of v.h.f. scribe to the magazine, and it is with no pleasure that I report the position being filled by Jack 5JD. He does not know this yet, but I will have great pleasure in telling him of the appointment. The reason of my displeasure at his appointment is because I have been able to keep him in order by threatening to put him in print, but now he can threaten me. Oh yes, I am on the v.h.f's, I listen to the taxi cabs on a rushbox, although my face is crimson as I admit it.

Charlie 5WQ (ex-3WQ) has been transferred to VK2 and is hoping to get the call of 2AWQ. He hopes also to keep up the many friendships that he has made during his short sojourn in VK5, and will have a VK5 filter in his VK2 rx which should lift the VK5 signals right out of the QRM. Trust that you enjoyed your stay in the "City of Churches" Charlie, we are not a bad bunch, are we?

SOUTH EAST AREAS

5MS is not very happy at the moment, is having trouble getting the full 100w. out of his mod. tranny. His new 60 ft. tower is expected any day now. 5FD has been making his presence felt on 20 mx with his 100w. to an 813 and John is more than pleased with the set-up. 5KU has at last seen the light and has been converted to high level plate modulation and this means that Erg is in the throes of building a new modulator.

5CH is getting gear sorted out at new QTH, expects to have the second mast well up in the air shortly; Claude was a welcome visitor to the "best broadcasting . . ." this month and we got him a sparrow's seat, together with his son Don, into one of our "live shows." Both were suitably impressed with all they saw. 5TW expects to have his 2 mx tx ready by now, looking forward to joining the regular Monday night net for the weekly pow-wow.

5JA is full of good resolutions and intentions toward radio but, ahem, he still comes under the heading of newly married, need I say more? John, before his marriage, was making great strides in the transmission of television pictures with home made gear and picking them up on his television rx that he brought back with him from England. In the dim future he expects to continue with this side of radio. 5CJ paid a short visit to the city and renewed friendships made in earlier visits. He gave me the name of h's new daughter, Colleen, and also told me that he is constructing a new power supply for his 2 mx tx. Colin said that the Mount Gambier boys were very much impressed with the news of the meetings that the Upper Murray gang were holding and whilst it was not possible at the moment to hold meetings like this at the Mount, they felt that their weekly get-together each Monday night on 2 mx was the next best.

At the moment of writing the "grey beard" certificates have been printed and delivered to

the VK5 Council and all that remains is to set up a list of rules and then present the certificates. Roughly the idea is to present the certificates to all members of the VK5 Division who have been in the game of Amateur Radio for twenty or more years. I really should get one but the trouble will be that most of the members will protest at such a young and handsome "grey beard" as myself being insulted with a certificate. Woo-woo and other expressions of youthful exhuberance.

WESTERN AREAS

News from Port Lincoln this month tells that the 20 mx beam of Pat 5LT was in the way of a windstorm just recently and naturally the windstorm won by a short head with the result that the beam finished flat on its back with most of the town's telephone wires to keep it company. The unfortunate part of it all was that he was away visiting VK2 and VK4 land at the time. 5DF has erected a 40 mx half wave "tripole," or as we technical minded chaps would say, a half wave three wire folded dipole. Wally and Jack 5VJ have been gathering the necessary bits and pieces to fill the air with 144 Mc. signals although the first day's attempts did not produce the expected results. 5VJ has now come by a 30 ft. windmill tower and has mounted on it a 20 mx and a 2 mx beam. 5RJ recently paid a quick visit to Port Lincoln whilst on a fishing trip. Thanks for the news Wally.

NORTHERN AREAS

The first meeting of the Clare boys was held at the QTH of Tim 5TJ and all present voted it a success. Tim has a very efficient set-up for his radio, especially when one realises that he is entirely dependent upon batteries in the shack, and is therefore forced to use gear that the average Ham would not dream of using. 5FB is not very active at the present, but John is doing quite a bit with high fidelity recordings.

The Northern Area boys say that they are listening to the W.I.A. Sunday morning broadcasts on 80 mx, as the 40 mx channel is definitely out at the moment, and they say that Reg's (5RR) re-transmission comes through OK.

Ross 5LW paid a visit to Lance 5XL during a business trip up North recently. Lance sent me down the notes, and with the modesty that characterises all of my country correspondents, left out any news concerning himself. Anyway, many thanks Lance, and here's hoping you all make the Xmas meeting.

UPPER MURRAY AREAS

The first of December deadline for these notes, much to my surprise (you're slipping, "Padder" Parsons, was announced in Nov. "A.R." and it has been that date for last few years—Editor), did not trick one of my correspondents, namely Fred 5MA. The monthly meeting of the Upper Murray gang was held at the residence of Harry 5KW and was quite a good show. Owing to the absence of the XYL and harmonics, the said meeting was a "bucks' " party with Harry playing the part of conjuror and producing radio gear and gadgets out of drawers and cupboards. His final stunt was to produce a tasty supper from out of the kitchen to which the audience did more than justice; nice work Harry. 5BC is well into 50 Mc. again. Harry 5KW and Murray 5CF are playing about on 2 mx, getting ready for the Upper Murray net they hope; Harry has been heard a little on 40 mx. 5XO has been doing a little DXing and working the local boys on 20 mx.

5TL is slowly but surely building a converter for 144 Mc. and Tom is fairly active on 40 mx. Hobby 5RE has been heard ragchewing with the locals on Sunday mornings. How do you address him fellows? "If it please your worship?" 5MA has jacked up his vee beam dipole into the air a little more and is getting better local reports. 5FO is to be congratulated on his topping the State in the R.D. Contest this year. Jim is one of those quiet unassuming jokers who always turn out to be the "dark horse" in Contests.

Frank 5MZ has returned from his trip to Melbourne and Ballarat thrilled with the success of his daughter Barbara at the competitions and also more than impressed with the way that the VK3 boys he met over there showered hospitality upon him. He tells me that he always knew that they were good scouts from the way that they treated him last year, but this year they excelled themselves. Frank was full of praise for the many acts of kindness shown him and is at the moment telling all and sundry in VK5 that the VK3s are a fine bunch of fellows, nothing is too much trouble to give one a good time, and he takes this opportunity to say "thanks fellows."

Had the pleasure of saying hello to Leo Rand (W2JAC) who is operating mobile maritime on the S.S. "Pioneer Glen." Leo is operating exclusively on 28 Mc. and is somewhat surprised and also disappointed to find the band so dead around VK. He is quite often on the air during lunch time (12 to 1), also between six and seven at night, and always after ten p.m. each night. Have a listen for him fellows and give him a sample of the old VK ragchew. It seems almost impossible, but he has been up and down the VK coast for some time now without making the acquaintance of one VK Ham. In fact he did not even know what W.I.A. meant. He does now, however!

The VK5 boys extend to all Hams, wherever they may be, sincere wishes for a very happy New Year, and if you want it, may it be your best year for DX. To the VK6 "copyboy," I say, "keep striving, persistence has its ultimate reward!!"

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WESTERN AUSTRALIA

Happy New Year, gang! Here's hoping 1953 will bring you all those things you hope for—including better conditions and more QSOs. To get down to business. The only minutes before me as I write these notes (earlier than usual this month) are those of the October Council meeting and as a great deal of the business transacted is of a purely domestic nature no reference need be made here to other than one or two items. The combined Institute and R.S. of W.A. Dinner apparently not only turned out a social succes, but also a financial one as a cheque for £2/5/11 was received as the Division's share of the profits. I see that Tom 6MK has rejoined the fold and we extend you a most warm welcome back.

The Contest Committee has recommended that the annual field day and social outing be held not later than February. Let's hope they advise their scribe in ample time for the date to appear in next month's issue!

A v.h.f. officer is to be appointed and it is thought that 6GB will be asked (and might accept) to act. (If you do, Jack, you'll have to write to me every month—not every second or third like Rolo!) DX notes are now being provided for transmission over 6WI each alternate Sunday; 6VM is responsible. Council is considering the purchase of a new typewriter and a duplicating machine. Someone's been casting eyes on the Building Fund A/c! Hands off, blokes! A duplicator isn't a building—and, who knows, if we wait long enough the principle, plus interest, might buy us a couple of bricks some day.

Mail Reading. Time has been short for snooping about the bands and opportunities few—so the Editor will be pleased to find these notes shorter than usual; if you are NOT pleased—then pick up the pen or mill and bash off a few lines about what you and your mates have been doing lately. 6AR Kalgoorlie has a "snout" on 6DX's three element beam and the DX it nets Bill. Alan has been working with globes and prismatic compasses planning some super vee beams which, unfortunately, don't seem to co-operate by fitting in 6AR's backyard.

6EC is now flat out with his latest love—TV. Eric's a tiger for work and recently completed a pulse generator chassis containing 20 valves and drawing 11 amps. of heater current! It produces all the pulses necessary for scanning, blanking and picture sync.—and it hasn't a knob on it anywhere; all pre-set controls. 6RW's modified 101 set certainly gets out for 3 watts input. Heard, and worked, Bob on 7 Mc. on various occasions and the little job certainly gets about. He has worked Eastern VKs on it, too!

After many months in the doldrums, 7 Mc. brightened up towards the end of November last and on 26/11/52 I was actually able to hold a QSO with 6LU for about half an hour at about 2120 W.A. time. Things are looking up if city-country QSOs are possible at night. Same night I worked 6RW, 6RT and 6LG. Len told me that Don 6DW went East per car, loaded up with 6 mx gear, but no permit for low frequency portable operation, so unless Don gets through on 6 mx we won't be hearing him.

Seems my comments on v.f.o's. and their capabilities aroused some comment—some for and some against. One VK6 seemed to pick me up wrongly and in case any others misunderstood, let me say that my ideal of a v.f.o. which can beat against but not impair the readability of an S4 or S5 signal did not mean that that must be the goal to strive for before one can be sure one's v.f.o. doesn't "get out" and annoy others. You can have a v.f.o. which practically lifts your rx off the table and still "keep it to yourself." However, switching off all but one or two low-power stages in the unit should enable you to net accurately on even weak signals and we should strive for such a state of affairs if only for good operating's sake.

Ern 6EL seems to have given the game away and so does Barry 6BR who has his hands full of exams., brand new s.h. car and an attack of YL-itis which will culminate late in February in the greatest tragedy which can overtake any Ham—wedding bells. Ho hum—life gets teed-jus—don't it?

TASMANIA

By the time this hits print, 1953 should be with us. I would like to take this opportunity to extend Season's Greetings to all members, near and far, and to express the hope that the New Year will prove brighter and better in all regards.

Actually, conditions do seem to have improved somewhat on 14 Mc., and I am certainly hearing more DX than usual. Or is it that I have just listened at the right time? Don't answer that.

Brian 7BH has been fairly active in his official capacity lately, and quite a few members have been honoured with a visit. To those chaps awaiting their turn, I would suggest that there is no time like the present to carry out that long postponed alteration. Those exposed high voltage terminals, that antenna coupler you forgot about when the few turns you shoved in the final tank worked so well, that section of 230v. a.c. cord you have walked on so often. Regs. are Regs., and it's a fairly safe bet that if you can see something about the rig that you are not happy with, it will not meet with official approval. Crook rx's excepted—of course.

Heard testing recently was 7LD. Don't know whether Len is merely following my earlier advice re switching the rig on occasionally, or whether he contemplates returning to the fold. Let's hope its the latter. Didn't think I was listening did you Len? 7BC, 7LE and 7WG have had the complaints of the season, with variations, but are hale and hearty once more. A great silence seems to have descended upon the 7AJ equipment. What's cooking, Athol? Trust it's not you. Too much N.C.S. If we don't hear from you soon, we had better come up your way with spades, etc.

Ted 7FJ is still investigating the possibilities of screen modulation in its various forms, whilst Nicky 7RY is allowing himself the luxury of a flutter on the 21 Mc. band. 7OM also active on 40. What about that tripler coil for 21, Bob?

My only comment on 2 mx is to express the hope that the coming Field Days will act as a long needed injection for activity on this band. A reminder also that VK9FN is interested in VK7 contacts on 6 mx. Well, that's all for now chaps, I trust that 1952 Xmas cheer lived up to expectations.

NORTH WESTERN ZONE

In lieu of the November meeting members entertained visitors from Devonport, former zone secretary Doug 7AB, 7XL, and Ted 7EJ formerly of Hobart. The evening was spent visiting shacks of 7SF, 7MR, 7WA and 7KB.

7SF, on a recent visit to 7AI, saw a very interesting demonstration of the manner in which a master can be built up on the screen of a c.r.o. tube for t.v. purposes. 7AI has been experimenting with time bases of this nature and has finally succeeded in getting a stable synchronised pattern. 7MR working hard on his new rig and hopes to be pushing out 100w. shortly. Our State Secretary paid a brief visit to the town on business and took the opportunity of meeting some of the members.

'Tis rumoured that 7WA is envious of 7KB's beam and has his eye on a windmill tower. It is with deep regret that we have received news that a former associate member of this zone, Johnny Hoskins, has passed away in New Zealand. Johnny was very keen and finally succeeded in getting his licence after a long battle. He was building his tx prior to going on the air for the first time under the call sign of ZL1ALC when he died from a stroke. All members of the zone extend their deepest sympathy to his wife and relatives.

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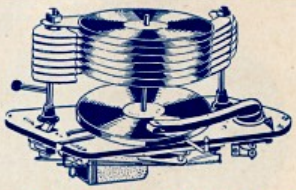

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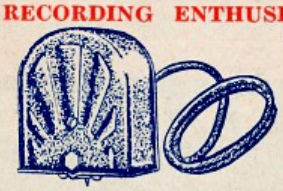

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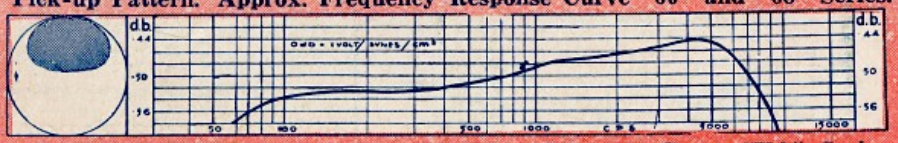
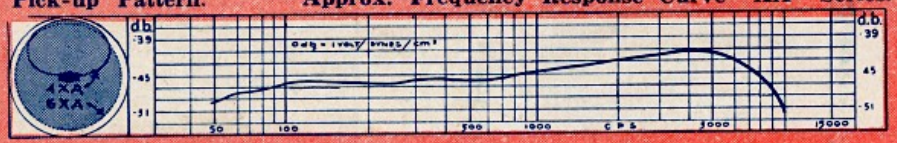


Pick-up Pattern. Approx. Frequency Response Curve "XA" Series.



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